

SANITARY DEPARTMENT.

Memo. of Errata in the Annual Sanitary Report of the Punjab for 1919.

1. On page 3, paragraph 9, line 4, *substitute* " 51.3 " *for* " 49.2 " and " Karnal " *for* " Rohtak ".
2. On page 4, paragraph 16, line 7, *for* " 31.32 " *read* " 31.22. "
3. On page 4, paragraph 17, line 6, *for* " 36.2 " *read* " 36.22. "
4. On page 5, paragraph 18, line 12, *for* " 14 " and " Rs. 21-12-0 " *read* " 28 " and Rs. " 31-15-0 ".
5. On page 5, paragraph 18, line 17, *for* " 218 " *read* " 408. "
6. On page 6, paragraph 22, line 2, *for* " 8, 61 " *read* " 8,561. "
7. On page 7, paragraph 22, line 19 *for* " 8,554 " *read* " 8,561 "
8. On page 9, in the comparative statement of plague against the years 1911, 1915, in column 4 *for* " 29,13 and 2879 " *read* " 29,463 " and " 28,879. "
9. On page 12, paragraph 27, line 6, *for* " feble " *read* " febrile. "
10. In the statement attached to appendix B, page VII, against Sargodha, column 4, *for* " 190,395 " *read* " 130,395. "
11. Annual form No. I, against Karnal in sub-column 4, *for* " 36,089 " *read* " 362,089. "
12. Annual form No. I, against Ludhiana in sub-column 4, *for* " 223,61 " *read* " 223,661. "
13. Annual form No. I, against Gurdaspur in sub-column 6, *for* " 17,21 " *read* " 17,321. "
14. Annual form No. I, against Gujranwala in sub-column 9, *for* " 2.26 " *read* " 22.6. "
15. Annual form No. II, against Jullundur in sub-column 15, *for* " 106.6 " *read* " 106.7. "
16. Annual form No. II, against Dera Ghazi Khan in sub-column 11, *for* " 35.52 " *read* " 25.5. "
17. Annual form No. IV, Hissar, against Respiratory diseases, sub-column 8, *for* " 9 " *read* " 8. "
18. Annual form No. IV, Ambala, against Injuries, sub-column 17, *for* " 1 " *read* " 17. "
19. Annual form No. IV, Ludhiana, against fevers, sub-column 11, *for* " 39 " *read* " 309. "
20. Annual form No. IV, Lahore, against Respiratory diseases, sub-column 25, *for* " 104 " *read* " 1,074. "
21. Annual form No. IV, Amritsar, against Respiratory diseases, sub-column 5, *for* " 400 " *read* " 409. "
22. Annual form No. IV, Amritsar, against Fevers, sub-column 8, *for* " 196 " *read* " 1,961. "
23. Annual form No. IV, Sialkot, against Dysentery and Diarrhoea, sub-column 15, *for* " 1 " *read* " 16. "
24. Annual form No. IV, Ratio per 1,000 for the Province against total, sub-column 28, *for* " 18.5 " *read* " 18.05. "
25. Annual form No. V, against Kangra sub-column 14, *for* " 22.31 " *read* " 32.31. "

26. Annual form No. V, against Ferozepore sub-column 14, *for* "35 29" *read* "25.29."

27. Annual form No. V, against Rawalpindi sub-column 17, *for* "2.71" *read* "27.71."

28. Annual form No. VI-B, Towns, Karnal district, Kaithal town sub-column 5, *for* "2" *read* "22."

29. Annual form No. VI-B, Towns, Sialkot district, against Bhopalwala town sub-column 23, *for* "1.0" *read* "1.80."

30. Annual form No. VI-B, Towns, Mianwali district, against Bhakkar, town sub-column 16, *for* "7" *read* "57."

31. Annual form No. VI-B, Towns, Total for the Province sub-column 3 *for* "9,337,146" *read* "19,337,146."

32. Annual form No. VII, against Rawalpindi sub-column 23, *for* "11.13" *read* "1.13."

33. Annual form No. VIII, against Gujranwala sub-column 10, *for* "9" *read* "39."

34. Annual form No. VIII, against total for the Province sub-column 20, *for* "7,62" *read* "7,262."

35. Annual form No. IX, against Jullundur sub-column 10, *for* "8.2" *read* "862."

36. Annual form No. X, against Hissar sub-column 17, *for* "1" *read* "18".

37. Annual form No. XI, against Dera Ghazi Khan sub-column 12, *for* "111" *read* "11."

38. Statement No. I, against total British districts sub-column 28, *for* "11,809" *read* "11,089."

Punjab Sanitary Report for 1919.

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REPORT
ON THE
SANITARY ADMINISTRATION OF THE PUNJAB
AND
PROCEEDINGS OF THE SANITARY BOARD
FOR THE YEAR 1919

BY
LIEUT.-COLONEL W. H. C. FORSTER, D.P.H., I.M.S.,
Sanitary Commissioner, Punjab,

AND
THE REPORT ON SANITARY WORKS FOR 1919

BY
MR. A. R. ASTBURY,
Sanitary Engineer, Punjab.



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Section II.—European Army.

No remarks.

Section III.—Native Army.

No remarks.

Section IV.—Jails.

No remarks.



Section VII.—Vaccination.

(Separate report.)

Section VIII.—Sanitary Works, Military.

No remarks.

(The text of the Sanitary Report is limited to 20 pages and that of the Sanitary Engineer to 4 pages.)

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*Proceedings of His Honour the Lieutenant-Governor of the Punjab in the
Home (Sanitary) Department, No. 877-S., dated the 12th June 1920.*

READ—

The report on the Sanitary Administration of the Punjab for the year 1919.

REMARKS.—The year 1919 was an extremely healthy one and the Province was visited by only two epidemics, cholera and small-pox, of which neither was of great severity. The arrival of the monsoon was delayed by nearly a month and, though, while it lasted, the rainfall was above the average, it retreated from the Province earlier than usual. The meteorological conditions were therefore unfavourable to a serious epidemic of malaria, the incidence of which (in the absence of such a severe epidemic of influenza as occurred in 1918) is the determining factor in the health of the Province. The prices of food-grains continued to rise and touched record figures, but the wages of the labouring population also rose and the statistics of the year indicate that the public health was not adversely affected by high prices.

2. The birth rate 40·3 shows only a very slight increase over that for 1918 and a decrease of 3·8 as compared with the previous quinquennial average. This, however, was only to be expected after the influenza outbreak of the previous year, and it is satisfactory to find that, despite the undermining of the health of the Province by an epidemic of such unprecedented violence, the Punjab has not only wrested premier position as regards birth rate from the Central Provinces, but also that the figure was no less than 5·97 above that for the latter province, which reverted to second place. Among districts the two colony districts of Montgomery and Lyallpur returned the highest rates with 50·7 and 49·0 respectively, and in addition Rohtak, Karnál, Ludhiána, Ferozepore, Lahore, Amritsar, Gujránwála, Miánwáli, Jhang and Multán all return rates above the Provincial average.

As is usually the case, Simla and Dera Gházi Khan stand last with rates of 21·1 and 25·5 respectively. Taken as a whole the eastern districts which suffered most severely from influenza show a decrease over the birth rate of last year, while the western districts where the epidemic was less acute, are responsible for the improvement which has taken place, the greatest increase being in Montgomery where the rate is 14·7 over that for 1918. It is satisfactory to note that, except in the case of Simla only, a natural increase of population was recorded in all districts. The urban population was less affected by influenza than the rural population and, consequently, all the principal towns show an increase both over the previous year and the quinquennial average, and Multán with a rate of 49 has displaced Amritsar from the premier position which it previously held with a quinquennial average of 45.

3. The death rate for the whole Province was, with the exception of 1912, the lowest recorded since 1900 and shows a welcome decrease from 43·6 to 28·3 as compared with the previous quinquennium. The decrease as compared with the previous year's appalling figure of 81 is due to the absence of influenza, while the cause of the decrease as compared with the 5 years' average is the comparative lightness of the plague and malaria epidemics. It is satisfactory to find that the rate is not far from being the lowest recorded in India. In rural areas the highest rate (39·0) was recorded in Gurgaon District, while Shahpur with 21·5 can claim to be the healthiest district in the province. In only seven districts—Gurgaon, Karnál, Rohtak, Ambála, Kángra, Montgomery and Gujránwála of which 4 are in the Ambála Division,—was the rate over 30, whereas during the previous year there was only one district, Simla, with a rate of less than 50. There was only a slight divergence in rates for the 3 largest towns, which varied between 34·03 for Lahore and 36·2 for Amritsar, and these figures compare very favourably with the previous quinquennial averages of 53·47, 46·39 and 42·02 for Amritsar, Multán and Lahore, respectively. Of the smaller towns Ichhra holds the proud position of having the lowest recorded rate of 8·74, but at the other end of the scale Pattoki, Sàngla and Chuharkána are responsible

for the very heavy returns of 73.94, 72.45 and 71.43 respectively. No other town, however, has a rate of over 60. The towns as usual show a heavier death rate than the districts, the difference amounting to 6.17. The mortality among infants under one year of age (189.33 for males and 188.04 for females calculated on the number of births during the year) continues distressingly high, but it is to be hoped that, with the spread of hygienic principles, assisted as it will be by the strengthening of the department directly responsible for the public health of the province, the rate will gradually be reduced to one comparable with that existing in more advanced communities. The Sanitary Commissioner while recognizing the value of the supply of medical assistance to combat the present evil urges the equal importance of sanitary conditions. "So long" he says "as we have grossly overcrowded towns where every law of hygiene is consistently and systematically defied; where the people breathe filth and through the agency of myriads of flies, eat filth; from which light and air are excluded; and where every article of diet is consistently adulterated—so long will we have mortality rates, infantile and otherwise, expressive of such a state of affairs." The Lieutenant-Governor hopes that the pertinent remarks of the Sanitary Commissioner with regard to the effect of insanitary surroundings on infantile mortality will be taken to heart by all those who, by their example and efforts, are capable of exercising influence in hygienic matters.

4. Cholera was more prevalent than in any year since 1915 and was responsible for 8,561 recorded deaths. The mortality was greatest in Attock and Lyallpur where 2,022 and 1,380 deaths were registered. The disease originated mainly in two centres of infection, Kohát and Hardwár. The latter place is a well known and continual source of danger and the first case of the year which occurred in April at Amritsar was traced to Hardwár. The outbreak in Attock was due to infection from the army in the Kohát area. All districts except Simla recorded deaths, though the mortality in Kangra, Montgomery, Multán and Muzaffargarh was under 100 in each case and the rate of deaths *per mille* exceeded one in the case of Ráwalpindi, Attock and Lyallpur only.

5. A serious outbreak of small-pox, which caused 15,365 deaths, occurred during the year. The disease was prevalent at the end of 1918 and reached its climax during the hot weather when 2,717 and 1,863 deaths were recorded during the months of June and July respectively. The outbreak, however, was very far from having been stamped out by the end of the year as is shown by the regrettable fact that 1,418 deaths were recorded in December. The ratio of deaths was .79 *per mille* as compared with the quinquennial average of .12 *per mille*. No district was free from infection and Hoshiárpur, Ferozepore, Montgomery, Lahore, Lyallpur and Hissar all returned more than 2,000 deaths while the mortality rate was high also in Montgomery, Hoshiárpur, Ferozepore, Jhelum and Ráwalpindi. The large percentage of fatal cases which occurred among children under ten years of age points to neglect of infantile vaccination, while the high rate of mortality in towns in which the Vaccination Act is not compulsory, is a reproach to the communities concerned. The Sanitary Commissioner applies to small-pox the classical remark that 'for every death from typhoid fever some one ought to be hanged.' The Lieutenant-Governor agrees that it is extremely regrettable that such a large mortality should occur from a disease, the preventive measures against which are so certain and well-known, and the proposals of the Sanitary Commissioner with regard to further preventive steps will receive the careful consideration of Government.

6. The mortality from plague shows a satisfactory decline from the figures of the previous year and the number of deaths recorded in British districts is, with the exception of the years 1916 and 1917, the smallest for the last 10 years. Special efforts were made to stamp out infection in the towns of Ráwalpindi and Multán which remain the two principal foci of infection in the Province. These measures, though they may not be immediately effective, are certain to bear fruit in time and the Lieutenant-Governor wishes to acknowledge the good services of the gentlemen whose work has been specially brought to the notice of Government in this connection. It is impossible to foresee

whether there will be a recrudescence of the disease on a large scale, but it seems unlikely to attain its former virulence if the campaign against it is systematically continued, and it is therefore of paramount importance that the efforts which are now being made in this direction should not cease.

7. Fever diseases were not more markedly prevalent than usual, the total number of recorded deaths being 365,045. The death rate was 18·88 *per mille* of population, and was 3·72 higher in the districts than in the towns. Of the districts Gurgaon, Karnál and Muzaffargarh all returned a fever death rate of over 22, while among the towns, Chuharkána and Rájanpur with rates of 37·47 and 34·02, respectively, came into unwelcome prominence. Malarial fever on the whole was not as prevalent as usual, while influenza after its outburst in 1918 sank into comparative insignificance.

8. The end of the war was marked by a relaxation of financial restrictions and grants-in-aid amounting to Rs. 4,30,866 were made by the Sanitary Board during the year, among the more important schemes financed being the Rohtak Drainage Scheme and the Gujránwála Water Supply Scheme. The year under review was a busy one for Mr. Astbury who held the post of Sanitary Engineer throughout, and many important sanitary projects were either initiated or completed. A large number of drainage schemes received the administrative approval of the Board, and under its fostering care the general sanitation of the urban areas is making a rapid advance, but the same remark unfortunately does not apply to the rural areas, where little advantage is taken of the powers under the District Boards Act of imposing taxation for purposes of village sanitation or of framing simple sanitary rules. With the passing of the Small Towns Bill, which will, it is hoped, shortly be ready for submission to the New Council, progress in rural sanitation should be more rapid. Meanwhile the Lieutenant-Governor is gratified to note that private effort is not wanting and he desires to thank the gentlemen mentioned in the report for the generous donations by means of which many works of public utility have been constructed in the rural areas.

9. Lieutenant-Colonel Forster remained in charge of the office of Sanitary Commissioner throughout the year and the Lieutenant-Governor desires to put on record his appreciation of the very marked ability and enthusiasm with which he has carried out his duties and in particular to thank him for a most interesting report. Lieutenant-Colonel Forster has an intimate knowledge of the principles of public health administration, and it is largely due to this that the satisfactory steps mentioned in section X of the report were taken during the year towards laying the foundation of a sound structure of preventive medicine. His Honour also acknowledges the energy and skill with which Lieutenant-Colonel Mackenzie and Dr. K. A. Rahman have carried out the arduous duties of Deputy Sanitary Commissioner and additional Deputy Sanitary Commissioner respectively, and he appreciates also the excellent work done by the Sanitary Board and the Sanitary Engineer.

ORDER :— Ordered that a copy of the foregoing remarks be circulated with report and be furnished with the usual number of copies of the report to the Government of India ; also that the review be published in the *Punjab Government Gazette*.

Ordered, also, that a copy be furnished to the Sanitary Commissioners, Punjab, for information.

By order of the Lieutenant-Governor of the Punjab,

B. T. GIBSON,

Financial Secretary to Government, Punjab.

Section I.

The following brief summary of the Chief Meteorological features of the Punjab during the year 1919 was supplied by the Director-General of Observatories.

Chief Meteorological features.

Rainfall was much heavier than usual in January over almost the whole province and much lighter, on the whole, in February. March was also drier than usual. In April rainfall was above the average in the south-west Punjab, and below it over the rest of the province. In May it was greatly in excess in the south-west Punjab, and nearly normal in the east and north Punjab. The monsoon rains, which generally begin about the middle of June, broke on the 12th July in 1919, with the result that rainfall was greatly in defect in June. It was, on the whole, above normal in July and August; but in September it was much below normal, the monsoon having retreated from the province on the fourth of that month about ten days before the usual time. There was hardly any rain in October and November, but in December winter depressions appeared fairly frequently, especially in the latter part of the month, and rainfall was widespread and much heavier than usual.

The departures from normal of humidity and cloud amount agreed, on the whole, with those of rainfall. Maximum temperature was below normal by 3° in April, and by 4° in December. Both maximum and minimum temperatures were much higher than usual in June; the highest temperature recorded in the province during the year was 119° on the 7th June at Multan.

2. The return supplied by the Director of Land Records, Punjab, shows that the average retail price of wheat during the year 1919 was $6\frac{1}{4}$ seers per rupee at Ambala, $6\frac{7}{8}$ at Lahore, $6\frac{3}{8}$ at Rawalpindi and $6\frac{1}{8}$ at Multan. The average rates of barley were $6\frac{3}{8}$ seers at Ambala, $9\frac{3}{8}$ at Lahore, $7\frac{3}{8}$ at Rawalpindi and $8\frac{3}{4}$ at Multan and that of Jowar $6\frac{9}{8}$, $6\frac{5}{8}$, $6\frac{1}{4}$, and $7\frac{3}{8}$, respectively.

Prices of food-grains.

As regards bajra the average rates varied from $5\frac{9}{8}$ to $7\frac{1}{4}$ seers at the principal markets of Ambala, Lahore, Rawalpindi and Multan, that of maize from $7\frac{1}{4}$ to $8\frac{1}{8}$ and that of gram $6\frac{1}{8}$ to $7\frac{5}{8}$ seers per rupee.

The prices were higher than in the preceding year and the rise was due to unsatisfactory outturn, large exports and restrictions on goods traffic.

3. Since the second regular wages survey of the Punjab was taken in December 1917 a further rise in wages has occurred, but no data are available in the office of the Director of Land Records for determining the extent of this rise.

Wages of labour.

Section V.—Vital Statistics.

4. The rough estimated population for the year under report prepared by adding births and subtracting deaths since the last census report, works out to 20,435,917 (11,235,862 males and 9,200,055 females) as against the census population of 19,337,146 (10,608,101 and 8,729,045). Calculated on this estimated population the birth rate is 38·3, *i.e.*, 2·0 *per mille* less than the rate calculated on the census figures, and similarly the death rate 26·8 is less by 1·5. In individual districts the rates calculated on the census figures are in excess in all the districts in the province except in the districts of Gurgaon, Simla and Dera Ghazi Khan, these being those districts in which the estimated population shows a reduction as compared with the census figures. In the previous year the districts which showed such a reduction were Gurgaon, Simla, Rawalpindi and Dera Ghazi Khan.

5. The health of the Province during the year under report was exceptionally good. The total death rate (28·34) from all causes being lower, with the exception of 1912, than it has been since 1900. Except Cholera and Small-pox which accounted for more deaths than in recent years, no other cause of mortality except "Injuries" shows an increase, while the reduction in the death rate from fevers when compared with the last year is no doubt attributable to the absence of both Malaria and Influenza in an epidemic form. The birth rate is not so satisfactory though it is higher than that recorded last year.

6. **Births.**—The total number of births registered this year was 778,846 of which 413,018 were males and 365,828 females, the respective rates being 40·3, 21·4 and 18·9. The total rate shows an increase of 0·7 compared with last year and a decrease of 3·8 compared with the average for the previous five years. A comparison by districts with the quinquennial average discloses the fact that the rate in 1919 was less in all the districts of the five divisions excepting Mianwali in the Rawalpindi Division and the districts of Montgomery, Lyallpur, Jhang and Multan of the Multan Division where it was in excess. The rate for Simla was equal to the quinquennial average.

Compared with the previous year the rate was in defect in the whole of the Ambala and Jullundur Divisions excepting the Gurgaon District. With the exception of Gurdaspur, Sialkot and Gujrat Districts it was greater in the Lahore, Rawalpindi and Multan Divisions.

The birth rate for 1919 is simply the continuation of the history of the Influenza Epidemic of last year. The south-eastern and southern districts which suffered most from that epidemic show a decrease in the birth rate, and in general the birth rate of a district is a fair indication of the severity of the epidemic.

7. The Central Provinces, that had been returning the highest birth rate for the last two years, had to yield this place of honour during 1919 to the Punjab, where it amounted to 40·28, the former standing second with a ratio of 34·31 followed by the United Provinces, Assam and Bihar and Orissa, with rates of 32·39, 30·52 and 30·46, respectively. Of the remaining provinces the rates were Burma 29·89, North-West Frontier Province 28·62, Bombay 27·90, Bengal 27·5 and Madras 25·52.

8. The birth rate in the 38 principal towns amounted to 45·6 *per mille* against 41·1 last year and 44·6, the average for the previous 5 years. The rates in the three largest towns were as follows:—Multan 49, Amritsar 47 and Lahore 41; the corresponding rates for last year being 34, 38 and 36 and the average for the previous 5 years 44, 45 and 38. These towns show an increase in the birth rate compared with both the rates recorded in the previous year and the average for the previous 5 years.

9. The highest birth rate this year was recorded in Montgomery where it was 50·7, followed closely by Lyallpur with 49·0, slightly in excess of the highest rate (49·2) recorded in Rohtak last year.

Highest and lowest birth rates (A. F. No. I) in the districts.

The other districts with a comparatively high rate were Lahore 46·3, Jhang 45·1, Amritsar 44·5, Rohtak 43·9, Mianwali 43·3, Multan 42·6, Karnal 42·4 and Ferozepore 42·1.

As usual the lowest rate was recorded in Simla where it amounted to 21·1, while next in order come Dera Ghazi Khan 25·5, Muzaffargarh 32·2, Kangra 32·5 and Jhelum 32·9. Of the 28 districts in the province 12 had a birth rate higher than the provincial rate of 40·3.

10. The natural increase of population, *i.e.*, excess of births over deaths amounted to 12·0 *per mille* in the year under report. With the exception of Simla where the death rate was higher than the birth rate, all the other districts record an excess of birth over death rates. Lyallpur heads the list with 22·7 followed by Jhang with 20·4, Montgomery 19·0, Lahore registering 18·1 and Amritsar 17·0. In the other districts it ranges from 15·6 in Multan to 0·8 in Kangra. Last year the position was very different, the death rate being 41·4 *per mille* in excess of the birth rate.

Excess of births over deaths (A. F. No. I).

11. Deaths.—The total number of deaths during 1919 was 548,070 of which 291,266 were males and 256,804 females, the resulting rates being 28·3, 27·5 and 29·4. The corresponding rates for the previous year were 81·0, 75·2 and 88·0, and the averages for the previous five years 43·6, 40·8 and 46·9. Of this death rate 18·9 or more than half was due to “Fevers,” 4·9 to “all other causes” and 2·0, 0·8 and 0·4 to Respiratory diseases, Small-pox, and Injuries, respectively. The marked decrease in the Provincial death rate is due to the lessened incidence of Plague and Fevers which show rates of 0·6 and 18·3, respectively, as compared with 4·9 and 66·6 in the preceding year.

Deaths (A. F. No. II).

12. The highest death rate, namely, 50·09, was registered in Assam, Central Provinces coming next with 43·24, followed by the United Provinces with 41·69, Bihar and Orissa 40·0, Bengal 36·2, Bombay 32·53, Burma 31·09, North-West Frontier Province 28·56. The Punjab which stood fourth last year is now ninth in the list with a rate of 28·34. The lowest death rate 27·23 was recorded in Madras.

Death rates in other Provinces.

13. With one exception, Simla, the death rates by districts was considerably lower than that of last year and the average for the previous 5 years. The highest death rate 39·0 was recorded in Gurgaon whilst in Karnal, Rohtak, Ambala, Kangra and Montgomery the rates were 35·2, 35·0, 32·0, 31·7 and 31·7, respectively. The lowest rate was recorded in Shampur 21·5 followed closely by Dera Ghazi Khan with 21·7. In the remaining districts it varied between 30·1 in Gujranwala and 24·7 in Jhang.

Deaths by districts (A. F. No. II).

14. August with a death rate of 1·72 was as usual the healthiest month. Next in order come March and April 1·98, February 2·01, July 2·06, May 2·29. The quarterly death rate was January-March 6·70, April-June 6·74, July-September 6·22, October-December 8·67.

Seasonal Mortality (A. F. III).

The rates were as usual higher in the last quarter of the year the malarial season) owing to fevers, unhealthiness beginning with September when the recorded death rate was 2·44, rising to 2·89 in October, and reaching the highest rate (2·90) in November.

15. As usual infants under one year of age had the highest mortality amounting to 184·15 for males and 170·10 for females, figures for the previous year being 248·3 and 235·91, respectively. Calculated on the number of births during the year the rates work out at 189·33 and 188·04 for males and females, respectively, as against 261·19 and 264·36 in the year

Death rates according to different age periods (A. F. No. IV).

previous, showing a marked reduction of 71·86 in the case of males and 76·32 in that of females. Next to infants old people of 60 and upwards suffered most, the rates for that age period being 66·49 for males and 64·94 for females; children between one and five coming next with rates of 49·12 and 50·30. Those between 50 and 60 had rates of 28·28 and 27·26, in the others it ranged between 8·87 the male rate in the 10 to 15 years group and 18·55 in the 40 to 50 year group. The mortality among females was higher than that amongst males in all the age periods except that under one year and that between 40 and 60 and upwards.

The total mortality rate for infants under one year is 177·29 and is a fair index of the position of the Province on the scale of material civilisation, the corresponding English rate of 71 for the last quarter of 1919 constituting an instructive standard of comparison. At present the subject of Infantile Welfare is very much to the fore and, as it seems in danger of being forgotten, I would emphasise the fact that infantile mortality is influenced just as much by the general conditions of livelihood as by the nature of the medical assistance available. So long as we have grossly overcrowded towns where every law of Hygiene is consistently and systematically defied; where the streets are public latrines, cess-pits, filth go-downs, and manure heaps; where the people breathe filth and, through the agency of myriads of flies, eat filth; from which light and air are excluded; and where every article of diet is consistently adulterated—so long will we have mortality rates, infantile and otherwise, expressive of such a state of affairs. The Therapeutic branch of medicine by means of the various Associations in formation is up and doing, but in the long run it is the Preventive branch, proceeding by methods necessarily slow, costly, and unspectacular, which will right the position. The Preventive branch is also up and doing, as will be shown in another part of this Report, but I would like to bring home to every Municipal Councillor that he, individually, is part and parcel of the general organisation of Preventive Medicine, and that without his earnest, and unselfish co-operation the pace of progress will be lamentably slow.

16. After several years the district of Gujranwala recorded less deaths under "other classes" than the actual numerical population of this class; in practically all districts the number of deaths registered under this head was unusually small, 494·95 the highest standing against Gujranwala. The total rate for the whole Province for this class was 17·02 against 107·01 in the year preceding. The rates for the other classes were Muhammadans 28·32, Hindus 28·33, Indian Christians 31·32 as against 81·32, 80·09, 100·80 in the year preceding. The death rate among Hindus exceeded that among Muhammadans in the districts of Kangra, Hoshiarpur, Amritsar, Jhelum, Rawalpindi, Jhang, Multan, Muzaffargarh, and in the first three districts the Hindu population predominates.

17. The urban rate which was 33·95 exceeded the rural rate 27·78 under all the heads of the mortality except fever under which head the recorded excess against the rural circles was 3·72. This excess is due to misclassification as deaths from plague are mostly returned under the head of fevers. The rates recorded in the three largest towns were Amritsar 36·2, Multan 35·67 and Lahore 34·03, and are considerably less than the rates recorded in the previous year 71·90, 75·77, 62·41 and the average for the preceding five years 53·47, 46·39 and 42·02.

Among the minor towns in the province the lowest rate was recorded in Ichhra 8·74, Badomali coming next with 12·79. In the following towns the rate was below 20·0 *per mile*—Samberial 14·64, Akalgarh 14·96, Moga 15·25, Shahpur 15·56, Bhopalwala 15·89, Zaffarwal 18·17, Chawinda 18·74, Kangra 19·61, Sargodha 19·78 and Dharmasala 19·86. These low rates are attributable to the entire absence of plague and to a comparatively low rate of fever in the localities in question. The highest rates were recorded in Pattoki Mandi 73·94, Sangla 72·45, Chuharkana 71·43, Palwal 57·46, Bahadurgarh 54·71, Mukerian 54·55, Shahkot 53·13, Jhelum 52·69, Beri 51·17 and Fazilka 50·61. The high rate in all these towns was either due to fevers or to the excessive mortality from plague and cholera. In Chuharkana the deaths recorded under the

head "all other causes" and in Mukerian, Fazilka and Gujranwala and Pattoki Mandi those recorded under small-pox also helped to swell the death rate.

18. There is an increase of 66,341 in the total number of vital occurrences investigated during the year as compared with last year. The actual numbers checked were 693,767 in birth and 662,697 in death registers.

Inspection of birth and death registers.

The percentage of omissions detected to total number of entries checked by Divisional Inspectors worked out at 2·19 and 2·21 for male and female births and 1·07 and 1·05 for male and female deaths; those checked by Superintendents of Vaccination and Vaccinators at 1·46 and 1·51 for births and 0·79 and 0·85 for deaths; those by the revenue staff at 1·40 and 0·91 for male and female births and 1·26 and 1·09 for deaths.

The number of chaukidars punished for neglecting to report cases of domestic occurrence was 14, the total fines amounting Rs. 21-12-0 only, while in the Karnal, Shahpur, Attock and Jhang Districts in some cases the men at fault were merely warned for their negligence. In municipal towns fines for neglect in complying with municipal bye-laws for the registration of births and deaths were imposed on 241 persons and amounted to Rs. 238 against 218 persons fined Rs. 370 in the preceding year.

19. During the year 71 births and 63 deaths were recorded at railway stations outside municipal limits against 75 and 151, respectively, in the preceding year. Of the deaths 39 were due to fevers, 7 to diseases of respiratory organs, 7 to injuries, 6 to dysentery and diarrhoea, 2 to all other causes and one each to cholera and small-pox.

Births and deaths among employees at Railway Stations.

20. There were 201 births and 167 deaths amongst Europeans and Anglo-Indians as against 263 and 162 respectively, last year. The deaths were distributed as follows:—All other causes 106, respiratory diseases 20, fevers 16, injuries 15, cholera 8, and small-pox and plague 1 each.

Births and deaths among Europeans and Anglo-Indians.

21. There were 3,858 births and 3,340 deaths among the non-military population of Cantonments showing an increase of 311 in the former and a decrease of 3,964 in the latter compared with the previous year. The deaths were classified as follows:—Fevers 1,610, all other causes 1,102, respiratory diseases 400, dysentery and diarrhoea 98, cholera 5, injuries 41, plague 21 and small-pox 13. There was a decrease under every head of mortality except cholera when compared with the figures for the last year.

Births and deaths among the non-military population of Cantonments (Appendix to A. F. No. VI-B.)

Section VI.--Chief Diseases.

22. Cholera was more prevalent in the year under report than in the previous year. It caused 8,61 deaths as compared with 257 deaths in 1918, 1,365 deaths in 1917, 1,651 in 1916 and 13,196 in 1915. Deaths from cholera were registered in all the districts of the province except Simla and the mortality was greatest in the Attock District where 2,022 deaths were registered. Lyallpur coming next with 1,380, Gujranwala 858, Rawalpindi 601, Gurgaon 505, Lahore 481, Amritsar 459, Karnal 372, Mianwali 324, Ferozepore 268, Gujrat 266 and Shahpur 229 and in the remaining districts the mortality did not exceed 200.

Out of 145 towns in the province only 63 recorded deaths from cholera the total number being 1,120 during the year under report. The highest number of deaths, *viz.*, 136, was recorded in the Rawalpindi town, Lahore coming next with 101 deaths, Amritsar 83, Fazilka 68, Karnal 62, Jullundur 46, 45 each in Sialkot, Sangla and Gujrat, 35 in Tarn Taran, 33 each in Batala and Chiniot and 32 in Rewari. In other towns the mortality was less than 30.

The disease made its appearance in April in which month 35 deaths were recorded and in May the number of deaths increased to 273 while in June it reached to 1,436. The largest number of deaths was recorded in July in which month no less than 3,762 deaths were recorded. In the month of August and September the number fell to 1,464 and 1,490, respectively, while in October it declined to 101, and thereafter the disease was over.

Of the total deaths from cholera, *viz.*, 8,561, recorded during the year the source of infection in the case of 373 deaths was traced to Hardwar and in most places the outbreak of the disease was, as usual, due to importation of infection from the centres directly infected from Hardwar.

The disease made its appearance early in April and the outbreak was as sudden as it was unexpected when the first case occurred at Amritsar on 7th. The victim was a Hindu male, aged 35 years, who had returned from Hardwar. He was brought to the Civil Hospital where he died the same day. Only 4 deaths were recorded at Amritsar during the month and the disease subsided. It may be noted that these cases had no connection with each other.

The epidemic was very severe in the Attock District. It started in villages near the Railway Stations of Jand and Basal on 1st June and within a week the outbreak spread from village to village in the Pindigheb and Talagang Tahsils, while the adjoining tahsil of Fatehjang became infected on the 29th June. The disease was originally imported from Kohat and Thal, where villagers employed at work in cantonments contracted the disease and fled to their homes spreading infection on their way back. The number of deaths in this district totalled 2,022.

Next comes Lyallpur District in which 1,380 deaths were recorded in 182 villages and 5 towns. The disease first appeared on the 25th April in the town of Tandlianwala in the person of a Hindu male of 35 years age who had himself returned from Hardwar where cholera was prevalent. The epidemic in this town resulted in 26 cases and 15 deaths.

The epidemic in Rawalpindi city commenced on 9th June and resulted in 136 deaths. The disease was imported by a Hindu youth, aged 25 years, who came from the Kohat infected area on the morning of the 9th and immediately after his arrival developed the symptoms of cholera and died. The Additional Deputy Sanitary Commissioner inspected the city twice and when on the second visit it appeared to him that the disease was mostly spread through food supplies, particularly fruits imported from Peshawar and Kashmir, stringent measures to prevent the contamination of these articles of food were taken and the outbreak was brought under control.

At the beginning, great difficulty was experienced in dealing with the epidemics in consequence of the non-receipt of early intimation of the outbreak of the disease in rural circles. The Civil Surgeons were instructed to bring this defect to the notice of the District Authorities, but as this did not produce the desired effect Government was approached and a communication on the subject to the Deputy Commissioners improved matters considerably. In the Muzaffargarh District the Lambardar and Chaukidar who failed to report a case of cholera were fined Rs. 5 and Rs. 2, respectively.

The outbreak originated in Attock chiefly from Kohat and Thal and at Rawalpindi from that side and also from Peshawar. The spread in Rawalpindi District was due to a fair at Kalian Awan and from Rewat where a cattle market was held every week, this was stopped soon after this fact was discovered. Hardwar was responsible for imported cases at Ambala, Jagadhri, Amritsar, Gujrat, Muzaffargarh town and Tikka Nagrota (Kangra District). In a few of them a small localised epidemic followed.

A short outbreak in August and September in several towns in the central Punjab such as Jullundur and Amritsar was the result of Amawas Fair at Tarn Taran (Amritsar District).

Large as the total of 8,554 deaths may seem it is a mere bagatelle compared to the totals returned by our next door neighbour, the United Provinces. For reasons which at present may be described as indefinite Cholera is one of the few diseases which does not do things on a grand scale in the Punjab and when our projected establishment of District Health Officers is complete it will probably trouble us even less than it does now. But so long as Hardwar is permitted to remain a disseminating focus we shall always be at the mercy of the factors which make "a good year" for Cholera. The Imperial Government is giving a special grant for the sanitation of Puri and it is to be hoped that some day Hardwar will receive the treatment necessary to prevent its being the public danger it is at present.

23. The small-pox epidemic was widespread at the end of the previous year and continued to increase in 1919 till the month of June when it attained its maximum intensity—2,717 deaths being reported during the month. In July the disease declined and the number of deaths fell to 1,863. The lowest number reported in any month of the year was 360 in October, but from that month onwards it began to increase, 723 deaths were returned in November and 1,418 in December. Small-pox claimed 15,365 victims during the year against 3,032 in 1918 representing annual ratios of 0.79 and 0.16 *per mille* respectively, against the quinquennial average of 0.12 *per mille*. The mortality was higher than in the last five years and no district was free from the disease. The last epidemic of a similar nature was in 1912 and 1913 when 30,339 and 38,687 deaths occurred. Of the deaths registered under this head 3,848 were under one year of age and 7,862 from one to ten years of age as against 725 and 1,707, respectively, in the previous year. This means that nearly two-thirds of the deaths which occurred from small-pox were among children under ten years of age and points to neglect of infantile vaccination. The proportion of male to female deaths from small-pox was nearly equal, the rates in 1919 being 0.76 in the case of males and 0.83 in that of females as against 0.14 and 0.17 in the year preceding.

The mortality rate from small-pox was as high as 2.64 *per mille* in Montgomery District, 2.17 in Hoshiarpur, 1.83 in Ferozepore, 1.71 in Jhelum, 1.32 each in Hissar and Lyallpur, 1.24 in Ludhiana and 1.23 in Lahore; while in the remaining districts it was below the provincial rate of 0.79. The lowest rate recorded was 0.03 in Muzaffargarh and Dera Ghazi Khan.

The death rate from small-pox in urban areas was 1.33 as compared with 0.74 in rural circles, and the average rate for towns in which the compulsory Vaccination Act is in force was 1.14 as against 1.17 in the previous year.

Out of 145 towns in this province 18 remained free from small-pox against 68 during the previous year. The highest rates were recorded in Una 8·38, Chiniot 8·31, Phillour 7·66, Pattoki Mandi 7·45, Muktsar 6·91, Garhdiwala 6·79, Gujranwala 5·59, Ramnagar 5·52, Mukerian 5·36 and Anandpur 5·20. In all these towns except Muktsar and Gujranwala vaccination is not compulsory.

In the beginning of the year a general letter was issued to the Civil Surgeons and Health Officers recommending special measures to prevent the spread of the disease, and when it was noticed that deaths from small-pox were still being returned in almost all the districts the attention of the Civil Surgeons was again drawn to the possibility of a severe epidemic in the province in the approaching winter. They were also asked to take active steps to promote vaccination and re-vaccination especially in the invaded areas and to see that the local bodies engaged temporary additional vaccinators to cope with the extra work. In addition all the important centres of infection were visited by me and the Additional Deputy Sanitary Commissioner and advice and assistance given. The Civil Surgeons and Health Officers with the co-operation of the District Authorities did their best to combat the spread of the disease.

Petten-koffer is credited with the classical remark that for every death from Typhoid Fever some one ought to be hanged, but the remark is much more applicable to small-pox. Vaccination is a simple and effective safe-guard against the disease, but numbers of parents refuse to give their children the benefit of the measure. When a sufficiently large un-vaccinated population has accrued, small-pox breaks out and compulsory immunisation of a type very different to that of vaccination is enforced by nature. Having done its work small-pox retires until natural compulsory immunisation again becomes necessary. For the years 1918-19 the deaths from small-pox totalled 18,397, and putting the case mortality at 10 per cent. this means that 183,970 people were subjected to natural compulsory immunisation. The epidemic, however, is by no means over, and many of the deaths are returned under other headings. By the time the epidemic is over I calculate that between a quarter and half a million people will have been infected. In the last Report I tabulated the chief preventable factors in our epidemic of small-pox and Government has taken action on the points raised. Much, however, remains to be done :—

- (1) The District Staff requires to be increased to a minimum of two per tahsil.
- (2) Local bodies should be under compulsion to employ extra staff at once when instructed to do so and should not be permitted to waste months arguing about the necessity for the measure.
- (3) The full complement of District Health Officers should be obtained as rapidly as possible and vaccination operations removed entirely from the control of Civil Surgeons.
- (4) The Vaccination Act is a feeble, ineffective measure which requires drastic amendment.
- (5) Vaccination should be made compulsory throughout the Province

24. Plague.—The Chief Plague Medical Officer has furnished the following report :—

The total number of plague cases and deaths in the Punjab during 1919 was 16,507 cases and 12,683 deaths, of which 14,616 cases and 11,039 deaths occurred in British districts and 1,891 cases and 1,594 deaths took place in Native States.

These figures have only been lower on two occasions during the past ten years, as is shown in the subjoined statement.

Comparative statement of total plague cases and deaths and case mortality for the past ten years.

Year.	BRITISH DISTRICTS.		NATIVE STATES.		TOTAL.		Cases Mortality.
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
1909	41,985	35,655	12,436	9,409	54,421	45,064	82.8
1910	152,769	135,529	45,201	34,338	197,970	169,867	85.8
1911	190,948	175,668	29,473	23,001	220,411	198,669	90.1
1912	35,486	29,850	6,928	5,273	42,414	35,123	82.8
1913	21,469	17,904	3,366	2,327	24,835	20,231	81.4
1914	76,269	64,077	11,836	9,550	88,105	73,627	83.5
1915	264,871	222,080	27,879	22,024	293,750	244,104	83.0
1916	4,242	3,325	1,030	826	5,272	4,151	78.7
1917	13,225	9,031	784	693	14,009	9,724	69.4
1918	124,590	95,742	20,695	18,734	145,285	114,476	78.7
1919	14,616	11,089	1,891	1,594	16,507	12,683	71.2

Type of disease.—The bubonic type of the disease alone prevailed though small localized outbreaks of pneumonic and septicaemic plague occurred in eight districts. In addition to being mild incidence some reports refer to the disease being relatively benign in character.

The case mortality was 71.2 per cent., which is the lowest figure reached (except for the year 1917) during the past ten years. This fact combined with the relatively low case mortality during the past four years may possibly indicate a slight decline in the virulence of the disease.

Distribution.—The plague infected area in 1919 was in the main the area infected in the preceding year. Thus in January 1919 human plague was still present in the districts of Hissar, Rohtak, Ferozepore, Lahore, Gujranwala, Jhelum, Rawalpindi, Montgomery, Lyallpur, Multan. These districts experienced the worst effect of the epidemic in 1919, the four most severely infected districts being Rohtak (3,228 deaths); Lahore (1,611 deaths); Ferozepore (1,162 deaths); Montgomery (894 deaths). The Patiala State reported 1,083 deaths and Jind State 325 deaths.

Small foci of infection appeared in all the remaining British districts with the exception of Simla, Kangra, Muzaffargarh and Dera Ghazi Khan which remained free from endemic plague throughout the year.

Seasonal Variation.—Plague exhibited its usual seasonal variation in prevalence. After a period of relative or absolute quiescence during the winter the disease commenced to recrudescence in January and February, the districts in which the disease had not completely died out at the end of 1919 being primarily involved. In March the disease assumed epidemic proportions and it reached its maximum intensity in April and May; during June it declined rapidly in all districts with the exception of the districts of Montgomery and Attock, in the former of which the disease prevailed until September. The autumnal recrudescence commenced in September, but out of 23 districts infected in the previous June the disease only reappeared in two cities and in five districts, *viz.*, Rawalpindi city, Multan city and the districts of Rohtak, Gujranwala, Jhelum, Attock and Lyallpur. The epidemics in the cities of Rawalpindi and Multan were the most conspicuous feature of the last three months of the year both by reason of their severity and of the fact that they constituted diffusion centres whence infection spread into plague-free areas.

Anti-Plague Measures.—The history of plague during the past year abundantly justifies the continuance of the policy of endeavouring to stamp out the disease by means of systematic rat destruction, during the plague-free season, in the areas infected late in the previous season, and particularly in the areas where human plague or rat mortality continues throughout the hot weather.

A special effort was made on these lines under the supervision of Lieutenant-Colonel A. W. T. Buist, I.M.S., Civil Surgeon, Rawalpindi, and Dr. Thakor, the Health Officer, Rawalpindi city, and K. B. Diwan Ali, M.B.E., Civil Surgeon, Multan, with the assistance of Mr. Deeks, the Secretary of the Municipal Committee, Multan, to rid the cities in their respective charges of infection. In Rawalpindi City an effort was made in the early autumn to cleanse and disinfect the whole city, to carry out an intensive campaign of rat destruction, by means of poison (barium carbonate), by rat trapping and by "smoking" operations. These efforts were attended with some measure of success although the disease was not completely controlled.

In other infected districts the areas infected late in the previous year were dealt with on similar lines, a special effort being made to obtain early reports of rat mortality and human plague and to deal promptly with them.

In the presence of an outbreak of plague villages were usually evacuated and anti-plague inoculation was readily resorted to where the outbreak was severe. The value of these measures is now so well-known that no further reference is necessary in regard to them.

During the year 12,994 anti-plague inoculations were performed, of which 2,698 were carried out in Multan city, 2,141 in Rohtak District, 1,789 in Jullundur District, 1,396 in Montgomery District and 1,196 in the city of Rawalpindi.

Staff.—In the beginning of the year no commissioned officers, Assistant Surgeons or Sub-Assistant Surgeons were available for plague duty, their place being taken by 41 Plague Supervisors, most of whom are qualified Sanitary Inspectors. In August 1919 20 Assistant Surgeons were recruited for plague duty, the services of 18 Plague Supervisors being at the same time dispensed with. At the close of the year the staff consisted of 14 Assistant Surgeons, 2 Sub-Assistant Surgeons and 20 Plague Supervisors.

This staff, working under the orders of the Civil Surgeon in each district, in addition to carrying out their duties in connection with anti-plague operations, performed useful services in connection with outbreaks of cholera, influenza, malaria and small-pox; they also administered a considerable amount of medical relief in rural areas. Assistant Surgeons treated 11,279 cases and Sub-Assistant Surgeons 164 cases, making a total of 11,443 cases of sickness treated by the Medical Staff on plague duty.

General Remarks.—It would be premature at present to conclude that plague is on the wane in the Punjab, although recent events suggest that the disease has died out in many districts. The main disquieting feature in the situation is the fact that plague is still active in two important cities and in view of the sanitary conditions prevailing, particularly in rural areas, a constant danger of re-infection exists.

Administration.—The post of Chief Plague Medical Officer was held as a collateral charge by the Inspector-General of Civil Hospitals from January 1st, 1919, until Major C. E. Southon, I.M.S., reverted from military duty on 15th February 1919, and again from 21st May 1919 when this officer was again transferred to the Military Department until September 29th, 1919, when Lieutenant-Colonel C. A. Gill, I.M.S., Chief Malaria Medical Officer, was appointed Chief Plague Medical Officer as an additional charge.

25. Fevers.—The year 1919 was, on the whole, a healthy one from the point of view of “fevers,” the total number of deaths recorded under this heading being 365,045 (equivalent to a death rate of 18·88 *per mille* of population) as against an average number of “fevers” deaths of 350,000 during the past 50 years (omitting 1918 on account of Influenza).

A. F. No. IX.

The term “fevers” embraces many diseases in addition to malaria. It includes a certain proportion of death from relapsing fever, pneumonia, enteric fever and other febrile diseases of uncertain origin.

The incidence and severity of Malaria is, however, indicated with approximate accuracy in the absence of Influenza by the number of “fever” deaths occurring in the months of October and November. These deaths numbered, in the year under review, 79,183, as compared with an average of 61,373 during the period from 1901-1917.

The influence of malaria on the public health is shown in the following table, where the relatively low “fever” death rate, low infantile mortality rate and a birth rate of average proportions,—all indicate the favourable condition of affairs prevailing in 1919—

Punjab.					Birth-rate.	Fever death rate.	Infantile mortality rate.
1919	...	...	..	...	40·3	18·88	187·3
1891—1910	...	...	..	...	40·1	22·41	239·7

The fever death rate of districts (towns and rural areas) was 18·88 as compared with 22·41 during the period 1891-1910. The districts exhibiting the highest “fever” death-rate were Gurgaon (25·25 *per mille*); Karnal (24·94 *per mille*); Ambala (21·45 *per mille*); Kangra (21·35 *per mille*); Mianwali (21·22 *per mille*); Montgomery (22·37 *per mille*) and Muzaffargarh (22·94 *per mille*).

The fever death rate was slightly higher amongst females than amongst males being 19·77 *per mille* in the former as compared with 18·14 *per mille* in the latter.

The urban fever death rate in 145 municipal towns was 15·50 *per mille*, the towns showing the highest fever death rate being as follows :—

District.	Town.				Fever death rate.
Gurgaon	Palwal	...	...	...	28·47
	Firozpur	...	...	...	21·33
	Hodal	...	...	...	24·14
	Ballabgarh	...	...	...	25·41
	Faridabad	...	...	...	30·76
Karnal	Karnal	...	...	...	26·36
	Kaithal	...	...	...	22·54
Hoshiarpur	Dasuya	...	...	...	24·46
	Tanda Umrar	...	...	...	21·09
	Mukerian	...	...	...	24·84
Lahore	Baghbanpura	...	...	...	23·03
	Pattoki	...	...	...	23·94
Gujranwala	Gujranwala	...	...	...	24·09
	Chuharkana	...	...	...	37·47
Gujrat	Gujrat	...	...	...	21·56
	Kunjah	...	...	...	22·14
Mianwali	Bhakkar	...	...	...	29·69
	Kalabagh	...	...	...	27·80
Montgomery	Pakpattan	...	...	...	21·87
Multan	Shujabad	...	...	...	22·10
Muzaffargarh	Leiah	...	...	...	24·47
	Karor	...	...	...	24·55
Dera Ghazi Khan	Rajanpur	...	...	...	34·02
	Kot Mithan	...	...	...	22·02

The fever death rate in the most important cities was—Lahore 17·66 *per mille*, Amritsar 14·87 *per mille*, Jullundur 11·78 *per mille*, Sialkot 11·83 *per mille*, Rawalpindi 18·78 *per mille*, and Multan 14·86 *per mille*.

The fever death rate in rural circles was 19·22 *per mille*, being higher by 3·72 *per mille* than the corresponding figure in the case of towns. Gurgaon District again exhibits the highest fever death rate (25·96 *per mille*) whilst in Karnal District the fever death rate of rural circles was 25·57 *per mille*. It was also relatively high in rural areas, in Ambala 22·32 *per mille*, Gujranwala 23·83 *per mille*, Montgomery 22·63 *per mille*, Muzaffargarh 23·01 *per mille*. The monthly incidence in the "fever" deaths exhibited no unusual feature. The months of October and November exhibited the largest number of "fever" death, whilst a smaller rise took place in the months of May and June.

The only areas where autumnal malaria attained epidemic intensity (though in a mild degree) were in the eastern part of Gurgaon District, Raipur Rural Circle in Ambala District, Mukerian Rural Circle in Hoshiarpur District and the rural circles of Malanwala and Moga in Ferozepore District.

The spleen census of school children under 10 years of age was carried out as usual in the months of June and November with the result that, of 43,919 children examined in 1919, the spleen-rate was found to be 10.1 per cent., as compared with 12.1 per cent. in November 1919, when 45,905 children were examined.

These rates compare favourably with those found in the previous year when the spleen-rate in June and November 1918 was 16.7 per cent. and 12.3 per cent., respectively.

26. There being a probability of a recrudescence of Influenza in the spring, arrangements were made to organise measures to prevent as far as possible its spread in the province, but fortunately it did not assume an alarming aspect during the year. The province was free from influenza until a single sporadic case, ending in complete recovery, was reported on 2nd August from Lahore Municipality. During the period from August to December reports of alleged outbreaks of influenza were received from Simla, Kangra, Ludhiana, Gujrat, Jhelum, Dharmpur, Rawalpindi, Attock, Mianwali, Muzaffargarh and Dera Ghazi Khan Districts, but on enquiries most of these outbreaks proved either Sandfly fever, Catarrhal fever, Pneumonia or Pneumonic Plague. Towards the end of the year there was a mild outbreak of Influenza at Bishop Cotton's School, Simla. There were in all 26 cases but none ended fatally. The entire school was inoculated by the Civil Surgeon, Simla East, with the vaccine when 16 cases had occurred and after that ten more cases occurred and the outbreak ceased. The mortality from "Fever" and "Respiratory Diseases" was somewhat higher than in the year preceding the epidemic of Influenza and it is probable that this excess mortality may be attributed in some degree to Influenza. Throughout autumn and the beginning of winter severe Catarrhal cold seemed to be more prevalent than usual in many districts of the province and a proportion of these may have been true influenza of a mild type.

In the Kangra District Influenza was first reported in Kulu during November and still continues but no death has been reported. Nurpur and Hamirpur Tahsils were also infected.

A sharp outbreak of Influenza was reported from Lahore Cantonment in October. The disease was mostly confined to Labour Corps. The deaths till the end of the year amounted to 267. It is noteworthy that the Civil Station and city of Lahore remained unaffected.

Another severe outbreak of Influenza in the villages of Shinka and Nartopa in the Attock District was reported, but the Chief Plague Medical Officer, Punjab, who investigated it came to the conclusion that it was Pneumonic Plague. In order to arrive at correct diagnosis the Civil Surgeons and Health Officers have since been instructed to take two slides of the sputum from each patient with symptoms and signs of Pneumonia or Pneumonic Plague and send them to the Bacteriologist to Government, Punjab, for examination and report.

It is interesting to note with reference to the immunity conferred by an attack of Influenza, that in the Muzaffargarh District the disease appeared as a local outbreak in 4 villages causing 199 cases with 70 deaths, and an enquiry showed that the majority of the victims during the year under report suffered from Influenza in the previous epidemic.

27. In March an outbreak of Influenza was reported from village Geehar in the Karnal District and thereafter it was further reported by the Civil Surgeon that a febrile disease had broken out in various villages in his district. The Additional Deputy Sanitary Commissioner visited these areas and took blood films from these cases during the febrile period. The symptoms and examination

Relapsing fever.

of blood films proved that the cases were of Relapsing fever. Altogether 1,232 cases and 359 deaths occurred during the year. A general leaflet describing measures capable of limiting the spread of Relapsing fever was drawn up and English and Urdu copies were sent to all Civil Surgeons and Health Officers in the Punjab for distribution. The disease was also reported from 3 other districts Rohtak, Ambala and Simla. In Simla it was imported by a Mochi from Karnal. Altogether 60 cases occurred mostly in Mochis and later on a few in Kashmiri coolies. The Health Officer took every possible step to combat the disease relying chiefly on disinfection of houses, clothing, and bedding for the destruction of lice. The Health Officer reports that this was a considerable undertaking, as the only large disinfector suitable for the purpose is at Tara Devi Plague Post over 5 miles away. All contacts and their effects had to be transported to this post in rickshaws. He emphasises the absolute necessity of a properly equipped disinfecting station for Simla as the old bazar disinfector has long since been out of action, and a new high pressure disinfector is urgently required to avoid the wasteful, inconvenient, and cumbersome procedure now adopted in sending contacts with their clothing and bedding to Tara Devi for disinfection.

8. In Simla 35 cases were notified from Enteric fever, 28 among Europeans and 7 among Indians, as against 22 in 1918. Enteric fever. These occurred in various parts of Simla and the enquiries made failed to disclose any common factor in their causation. The cases were diagnosed for the most part on clinical evidence and were mostly notified as Paratyphoid. During the year 3 cases of Typhus fever in Simla were returned but the source of the infection was not traceable.

In the Criminal Tribes Settlement at Dhariwal (Gurdaspur District) 29 cases occurred during the months of March, April and May of which one proved fatal; the patient developing double Pneumonia. The infection in the first case was probably introduced from Dhariwal bazaar where these labourers in the mill generally go during their meal hour. As soon as the report of the outbreak was received by the Civil Surgeon he proceeded to the spot and applied preventive measures.

29. In December the Civil Surgeon, Amritsar, reported the existence of a case resembling sleeping sickness in its clinical features. The case was visited by the Additional Deputy Sanitary Commissioner and appeared to be one of Encephalitis Lethargica. In conjunction with the provincial bacteriological laboratory it was investigated and the possibility of sleeping sickness definitely excluded. The symptoms being identical with those of Encephalitis Lethargica reported from Karachi the case was diagnosed accordingly. Other cases followed and the little outbreak ceased in February with a total of 12 cases of which 5 proved fatal. The points of interest in connection with this little outbreak are—

- (1) No connection with the outbreak at Karachi could be traced. The disease apparently occurred spontaneously.
- (2) None of the patients had previously suffered from influenza and Amritsar was free of influenza at the time.
- (3) No connection between cases could be traced. The cases occurred in different parts of the town and in separate families.
- (4) It is impossible to reproduce the disease in rabbits and guinea pigs.

30. **Dysentery and Diarrhoea.**—The total number of deaths from Dysentery and Diarrhoea amounted to 8,639 as against 10,358 in the previous year, the rate being 1.45 and 0.54, respectively. The quinquennial average was 0.70. The provincial rate was exceeded in 10 districts but the excess was as usual most marked in Rawalpindi and Simla where the rate was 3.09 and 2.69, respectively. Of the remaining districts the rate recorded in Gurgaon was 0.70 and in Kangra and Gurdaspur 0.60 each and in other districts it did not exceed 0.58 while it was as low as 0.04 in Hoshiarpur.

The urban and rural rates were 1·65 and 0·33 as against 1·68 and 0·42 in the year preceding.

31. Respiratory Diseases — Diseases of the respiratory organs accounted for 37,813 deaths at a rate of 1·96 *per mille* which shows a decrease of 0·77 and 0·64 compared with the previous year and the average for the preceding 5 years respectively.

A. F. No. XI.

The provincial rate was exceeded in 10 districts, but the excess was most marked in Gurdaspur where the rate was 6·38 followed by Kangra with 4·61 and Ambala 4·58. It was as low as 0·20 in Montgomery and Dera Ghazi Khan, 0·35 in Muzaffargarh and 0·55 in Jhang.

The urban rate was 5·32 and the rural rate 1·62, the corresponding rates for the previous year being 5·16 and 2·18.

32. Injuries. — There were 6,896 deaths due to injuries at a rate of 0·36 compared with 0·32 in the previous year and 0·36 the average for the preceding 5 years.

A. F. No. II.

The deaths were classified as follows:—

Suicide 261 (116 males and 145 females), wounds 781 (650 and 131), accidents 4,910 (2,947 and 1,963), snake-bite 736, injuries inflicted by wild beasts 66 and rabies 142.

33. All other causes. — The total number of deaths registered under the head “all other causes” amounted to 94,683 at a rate of 4·90 which is the lowest on record since 1871.

A. F. No. II.

The rate for the last year and the average for the preceding 5 years were 5·70 and 6·48 respectively. The highest rates were recorded in Gurgaon 10·4, Ludhiana 8·2, Rohtak and Karnal 7·3 and Simla 7·0, while very low rates were recorded in Dera Ghazi Khan 2·0, Muzaffargarh 2·1, Rawalpindi 3·1, Gurdaspur 3·5 and Hoshiarpur, Gujranwala and Attock 3·6.

34. Rabies. — During the year under report 1,810 patients from the Punjab underwent anti-rabic treatment at the Pasteur Institute at Kasauli as against 1,745 last year. All of these were Indians among whom there were 8 deaths and 6 failures and in addition 1 case is for various reasons still under enquiry. There were 177 cases in which either treatment was not considered necessary or subsequent events proved that they ran no risk.

Section IX.—Sanitary Works.

35. The report on Sanitary Works during 1919, furnished by the Sanitary Engineer to Government, Punjab, is contained in Appendix B to this report.

36. The Deputy Commissioner, Ferozepore, reports that one hundred villages in his district were supplied with village sanitary note-books during the year under report.

37. As last year the District Board, Shahpur, agreed to give prizes to the two best villages in each tahsil for sanitary improvements, but no practical result was obtained during the year.

38. The number of wells cleaned and parapets constructed during the year rose from 5,615 in the previous year to 6,177 and of parapets constructed fell from 608 to 548 respectively. A sum of Rs. 49,222 was spent for this purpose and for the construction of new wells during the year showing a decrease of Rs. 34,687 compared with the previous year. A new well outside Ghushain gate, Hansi (Hissar District) is being sunk at a cost of about Rs. 800.

39. An income of Rs. 2,06,603 was derived from the sale of street sweepings in municipal towns during the year as against Rs. 1,44,265 in the previous year. The largest sums were realized in Sialkot, Lahore and Amritsar.

40. There were 1,556.19 acres of land under sewage irrigation in the principal towns and Rs. 44,828 were realized for its use during the year. There was an increase of 179.52 acres in land thus irrigated and a sum of Rs. 1,258 in the amount realized.

41. Few attempts have been made to improve village sanitation and not with any great zest. Rules for sanitation in certain selected villages were framed and sanctioned by the District Boards of Ambala, Ludhiana and Mianwali but they were not taken advantage of by the villagers and until the people themselves show some inclination towards improvement, it is hardly possible to help them.

The District Boards of Lyallpur and Muzaffargarh have also prepared bye-laws in this connection which are said to be under the consideration of Government. It is gratifying to note that a separate Sanitary Inspector is employed by the District Board, Rohtak, to solely look after the sanitation of rural areas. In the Gurdaspur District the bazar of Dungala town was paved at a cost of Rs. 2,000 out of panchayat funds. Fifteen villages in this district maintain conservancy establishment at their own expense.

42. The conversion of Moga from a Notified Area to the status of a Municipality raised the number of municipal towns from 100 to 101 during the year 1918-19 and reduced the number of notified areas from 104 to 103. At the close of the year three new notified areas were constituted, viz., Mian Channu, Khanewal and Jahanian in the Multan District. The total income during the year, excluding opening balance of Rs. 36,73,713 and under head "Extraordinary" and debts amounting to Rs. 2,33,520, was Rs. 82,21,813. The total municipal expenditure on sanitation and vaccination was Rs. 22,32,978, as detailed below :—

				Rs.
(1)	Water supply	...	...	4,10,885
(2)	Drainage	...	...	1,95,579
(3)	Conservancy, including establishment, road cleaning and watering, latrines, etc.	...	...	8,70,622

	Rs.
(4) Health Officers and Sanitary Inspectors ...	88,191
(5) Vaccination ...	25,723
(6) Markets and Slaughter Houses ...	31,001
(7) Roads ...	5,88,123
(8) Burning and burial of paupers ...	9,151
(9) Other sanitary requirements ...	13,703

The total income of District Boards excluding opening balance, amounted to Rs. 94,90,888 and the expenditure on sanitation and vaccination to Rs. 1,36,071.

The information regarding grants made for sanitary works is given in Appendix A appended to this report.

43. A list of works of public utility constructed during the year 1918-19, by private individuals at their own expense, is given below :—

Works of public utility by private individuals.

Ambala Division—Hissar District.—A pucca well at Patti at a cost of Rs. 2,000 by Karam Chand, Brahman, of Patti. A pucca well on road side of Rori-Sirsa Road at a cost of Rs. 1,200 by Lala Munshi Ram, Bhabra, of Rori. A pucca well in village Bhera at a cost of Rs. 825 by Lala Chandu Lal, son of Kannu Ram, Brahman, of Bhera. A pucca well in village Bahal at a cost of Rs. 1,000 by Ram Chander, son of Pokhar, Mahajan of Bahal.

Rohtak District.—A pucca well on Patti Kalan and Khanpore Kalan Road at a cost of Rs. 800 by Harphul Singh, Lambardar of Mahmudpore. A pucca well and a dharamsala on Barodha-Gohana Road at a cost of Rs. 700 by Kundan Lal, son of Ranjit, Hindu mason of Gohana. A pucca well on Murthal-Kutana Road at a cost of Rs. 200 by Kankoo, son of Sheo Lal, Mahajan of Tajpore. A pucca well and a dharamsala on Jakhauli Nagal Kalan Road at a cost of Rs. 450 by Mukhi, son of Murlidhar, Mahajan of Jakhauli. A pucca well and a dharamsala on Nagal Kalan-Baghat Road at a cost of Rs. 540 by Arjan Mal, son of Phulloo, Mahajan of Jakhauli.

Karnal District.—A pucca well at Naguran at a cost of Rs. 2,500 by Buldeva, Brahmchari, of Naguran.

Ambala District.—A pucca well at Majra at a cost of Rs. 1,850, by Gobind, son of Sant Ram, Brahman, of village Majra. A pucca sarai on Ambala-Naraingarh Road near school at a cost of Rs. 7,325 by Harblas, son of Sri Ram, Bania, of Shahzadpore.

Jullundur Division—Kangra District.—A pucca well at Nagrota Bagwan on the Pathankot-Palampur Cart Road at a cost of Rs. 4,400 by Diwan Roda Mal, son of Diwan Hardiyal Singh, Mahajan of Kotla in Nurpur Tahsil. A pucca well in village Ghuryal in Dehra Tahsil at a cost of Rs. 600 by Musammat Panon, wife of Nihal Singh, caste Ghumar, of Chadiana village in Mauza Narihana of the Dehra Tahsil.

Hoshiarpur District.—A pucca well at Raju Majra village at a cost of Rs. 3,000 by Kirpa son of Naquhi, Gujjar of Raju Majra, Tahsil Garhshankar. A pucca well on Una-Anandpur Road near village Dakhli at a cost of Rs. 2,000 by Kirpa Ram, son of Kartar Singh, Rajput of Meghpur, tahsil Una. A pucca well on the Hariana-Sham Churasi Road near village Mirzapur, Tahsil Hoshiarpur, at a cost of Rs. 400 by Mussammat Chandkur, widow of Ghian Sunder, Nankria, of Amritsar.

Ludhiana District.—One pukhta well at village Bhasi, Tahsil Samrala, at a cost of Rs. 500 by Mangal Ram, son of Jiwan Ram, Brahman, of village Bhasi, Tahsil Samrala.

Ferozepore District.—A pucca well at Ladhuka at a cost of Rs. 225 by Nihal Chand, son of Chanda, Arora, of Ladhuka.

Lahore Division—Lahore District.—A dharamsala at Azamabad, Kot Haroo Shah, Tahsil Chunian, at a cost of Rs. 4,400 by Arjan Das, son of Kanhya Lal, Khatri. A mosque with a well at Mandi Kot Radha Kishen, Tahsil Chunian, at a cost of Rs. 4,000 by Qaim Din and Jalal Din, sons of Ilahi Bakhsh, Khoja. A takia for travellers at Ganja Kalan, Tahsil Chunian, at a cost of Rs. 300 by Muhammad Ali, Zaildar. A well for drinking purposes at Sarai Chhimba, Tahsil Chunian, at a cost of Rs. 300 by Bhai Kala Singh, Chela Bhai Nihal Singh, Sadh. A well for drinking purposes at Nantheh Khalsa, Tahsil Chunian, at a cost of Rs. 500 by Sultan Singh, son of Sulakhan Singh, Jat. A well for drinking purposes at Behrwal, Tahsil Chunian, at a cost of Rs. 500 by Sher Singh, son of Ganda Singh. Repairs of a destroyed well for drinking purposes at Bhanke Uttar, Tahsil Chunian, at a cost of Rs. 250 by Kala Singh, son of Dan Singh, Jat.

Multan Division—Lyallpur District.—A well on Lyallpur-Lodhranwala Road at a cost of Rs. 650 by Bansi Lal and Ajudhia, sons of Daya Lal, of 117 J. B. A well on Lyallpur to Narwala Road at a cost of Rs. 1,400 by Sahib Singh, son of Jhakkar Singh, of 124 J. B. A well on Lyallpur to Lodhranwala Road at a cost of Rs. 1,500 by Sain Lasuvi Shah of Lyallpur. A well on Jaranwala-Lyallpur Road at a cost of Rs. 700 by Indar Singh, of 65 G. B.

Muzaffargarh District.—A pucca well at Leiah at a cost of Rs. 300 by Loku Ram, Nangpal, of Leiah. A sarai on Got Chani Road in Alipur Tahsil at a cost of Rs. 300 by Thakar Bhواني Das, son of Thakar Megh Raj, of Alipur.

Section X.

44. There were no changes in the superior personnel of the Department during the year under review.

Administration.

I acted as Sanitary Commissioner; the post of Deputy Sanitary Commissioner was held as a collateral charge by Lieutenant-Colonel Mackenzie, I. M. S., acting for me as Professor of Pathology, King Edward Memorial Medical College; and Dr. K. A. Rahman continued to hold the post of Additional Deputy Sanitary Commissioner. The Department is severely handicapped by deficiencies in superior personnel and during the year the work, which was unusually heavy, was carried out with difficulty. The re-organisation of the Department had to be taken in hand; important questions of policy with regard to general sanitation and involving the ultimate expenditure of very large sums of money were before the Sanitary Board; and the Province suffered from a widespread epidemic of cholera. The usual inspections were carried out and owing to the cholera epidemic Dr. Rahman spent most of the hot weather on emergency touring. Lieutenant-Colonel Mackenzie in addition to his own duties, which are heavy, supervised the Vaccine Institute, discharged the office duties of Deputy Sanitary Commissioner, acted as Professor of Hygiene, conducted the Sanitary Inspector's class and during the College vacation assisted in the general work of inspection. This is heavy work for one officer—I speak feelingly having had four years' experience of it myself,—and the thanks of Government are due to Lieutenant-Colonel Mackenzie and Dr. Rahman both for their arduous work and the skill with which they overcame all difficulties. Some relief to the over-strained Department was given by the return of Assistant Surgeon, H. C. Phillips, Superintendent of the Vaccine Institute, from military duty, but as a counter entry my own office suffered a great loss in the sudden death of my Superintendent Mr. W. H. Mills. Mr. Mills joined the Department in 1906, was an invaluable Superintendent with special abilities for statistical work, and it was largely due to him that the Department was able to exist for three years during the stress of the War with the offices of Sanitary Commissioner and Deputy Sanitary Commissioner held as collateral charges. The death of Mr. Mills threw everything into confusion but the Inspector-General, Civil Hospitals, came to my aid, lent me and finally transferred to me Mr. Jennings, acting Superintendent of his own office.

The year 1919 will be memorable in the history of the development of Preventive Medicine in the Province as the year in which the foundations of a thoroughly sound structure were laid.

No student of Preventive Medicine could fail to be struck by the fact that in the matter of epidemics the Punjab usually suffers on an unprecedented scale. Epidemic plague visits India and the vital statistics of the Punjab become of world-wide interest; the malaria epidemic of 1908 stands out as a record; finally, Influenza visits us and the tale of 9,60,000 deaths in three months in a population of 19 millions is one which is never likely to be paralleled. In a Province with such a medical history "panic" measures are liable to be favoured to the detriment of sound principles, and this has certainly been the case in the Punjab. For Plague a Plague Department was created; for Malaria a Malaria Department, and for a time we were threatened with the creation of an Influenza Department. This policy may be made very attractive on paper, but it is radically unsound and I, for one, have never ceased to assail it. As I am never weary of pointing out England has taught the world the principles and practice of Preventive Medicine and, though there have been many paper attempts to show England that her principles and practice are rudimentary and faulty, such communities as have not fallen into line with her continue to display the fact in their vital statistics. But England never attained her present position by the creation of emergency departments and such like panic measures. The Punjab with its over-crowded insanitary towns, deficient medical personnel, using the term "medical" in the wider sense, lack of organisation and driving power in its Sanitary Department, and its top heavy, heterogenous collection of specialised departments had certainly strayed far from English principles. The time had come for a clean sweep and this was made in 1919.

English experience teaches us that the problem of epidemic disease can be attacked on two main lines—firstly, the provision of an adequate, properly qualified medical personnel and, secondly, the improvement of conditions of livelihood on broad sanitary lines—and the provincial policy has been reconstructed on these lines. In outline the policy adopted is as follows:—

Medical personnel (Therapeutic).—The minimum standard of one qualified medical practitioner per 100 square miles has been accepted by Government and assistance promised to the District Boards; standard plans for cheap rural dispensaries have been drawn up; and the principle of each rural medical officer being the medical officer of health for his beat accepted. As a corollary arrangements have been made for increasing the out-put from the Medical College and School, and the Punjab Medical Council has been given a fillip towards drawing up a standard medical curriculum.

Medical personnel (Preventive).—The number of Municipal Health Officers is to be increased and each district will be provided with a District Health Officer discharging the duties of an English County Medical Officer of Health, independent of the Civil Surgeon, and working under the District Board. As regards District Health Officers a start is to be made with the three selected districts of Gurgaon, Jullundur and Rohtak, Government bearing the entire cost for five years, and Government has offered to do the same for any other district wishing to employ a Health Officer.

SANITARY DEPARTMENT.

Personnel.—The reorganised department will consist of the Sanitary Commissioner and 9 Deputy Sanitary Commissioners distributed as follows:—

One for each of the 5 Revenue Divisions, three at head-quarters for technical services, and one as leave reserve. The existing Plague and Malaria Departments will be abolished and the personnel absorbed in the reorganised department. This scheme has been submitted to the Government of India for sanction and in the meantime the Plague and Malaria Departments are under orders for transfer to the Sanitary Department. When in working order the technical Deputy Sanitary Commissioners at headquarters will constitute epidemiological units for the investigation and eradication of epidemic disease, working as part of the Hygiene Institute; and each Divisional Deputy Sanitary Commissioner will be responsible for the supervision of all public health matters in his division.

The acceptance of this scheme by Government was mainly due to the helpful and sympathetic attitude of the Hon'ble Colonel MacWatt, C.I.E., Inspector-General of Civil Hospitals, who, after acquainting himself with the details of my scheme and examining the working of the existing organisation, gave me his whole-hearted support. Consequently Government, no longer perplexed by divided councils, was in a position to take immediate action.

Material.—Before leaving my post at the Medical College I had convinced Government of the necessity for severing its connection with the Pasteur Institute and adopting the King Edward Memorial Research Institute as the Provincial Bacteriological laboratory, and the proposal had gone to the Secretary of State for sanction. Shortly after my departure sanction was accorded and from January 1919 the Province has had its own Bacteriological laboratory the report of which for the first time appears in these pages. Comparison of this Report with that of the Pasteur Institute for previous years will show that my prophecy of a rapid expansion of work has been amply justified. The present Provincial Laboratory, however, was designed to meet the requirements of Therapeutic Medicine and for that reason was placed directly under the Inspector-General of Civil Hospitals, Punjab. At present it is of course affording invaluable assistance to this department, but it could not possibly hope to cope with our requirements, and I have always laid it down as a cardinal principle that to endeavour to meet the requirements of Therapeutic and Preventive Medicine on a large scale by a combined laboratory is unsound. Allowing for a certain and, I consider, desirable amount of over-lapping, the chemical, bacteriological, and epidemiological aspects of Preventive Medicine problems require a separate laboratory organisation, and being personally responsible for the existing medical laboratory organisation of the Province this principle has been carefully observed. The requirements of therapeutic medicine naturally come first, and it now remains to make good the deficiency in the domain of Preventive Medicine. This, I have every reason to believe, will shortly be accomplished by means of the Hygiene Institute. Government has approved in principle of this Institute, but the detailed scheme has yet to be examined. Here it is only necessary to state that the Institute will perform the following functions:—(1) Provide for the chemical, bacteriological, and epidemiological study—routine and investigatory,—of Preventive Medicine problems. (2) Provide epidemiological units and the necessary trained subordinate personnel. (3) Train public analysts required under the Punjab Prevention of Adulteration Act. (4) Give a complete course of instruction for the Provincial D. P. H. (5) Give the course of instruction for the Sanitary Inspectors' certificate. (6) Incorporate the existing Vaccine Institute. Owing to existing loose terminology it is also necessary to clearly state that the Institute will *not* be a post-graduate school of Tropical Medicine. The constitution of any such school is the function of the Medical College and the Hygiene Institute will be designed to prevent any possibility of encroachment on the functions of that body.

45. In the last report I referred to the necessity for the creation of Improvement Trusts to deal with Town Improvements and Town Planning in our overcrowded insanitary towns. In the year under report I submitted a note on the subject to Government which was referred to a strong Sub-Committee of the Sanitary Board for consideration. The Committee unanimously reported in favour of such Trusts and a Bill will be introduced into the Legislative Council to give effect to the Committee's recommendations.

This is a great advance and one which will ultimately prove to be of incalculable value to the province, as without the machinery of Improvement Trusts it is impossible to deal with the existing state of affairs.

The outline sketch given here will justify, I think, the opening statement that the foundations of a thoroughly sound structure have been laid. Much in the way of building on the foundations remains to be done, but provided administrators recognise that progress in Preventive Medicine is relatively slow and resist appeals to fritter away money on panic measures the structure will be steadily completed.

46. Civil Surgeons made 135 inspections of towns and 1,416 of smaller towns and villages during the year as against 156 of towns and 1,553 of villages in 1918. Assistant Surgeons inspected 38 towns and 350 smaller towns and villages as compared with 25 and 265, respectively, in the previous year.

47. Although malaria was not extensively present during the year ample steps were taken by local bodies for the free distribution of quinine in most of the districts in the Punjab through different agencies. Quinine in tablet form was also largely distributed by Government to the very poor through Co-operative Societies and Missionary and other philanthropic bodies.

48. It was not possible to do much in the way of filling up depressions owing to financial stringency, but in some towns and districts gangs were employed for the purpose notably in Rohtak, Ambala, Jhelum, Montgomery, Lyallpur and Muzaffargarh.

49. The Deputy Sanitary Commissioner remained *ex-officio* Professor of Hygiene of the King Edward Medical College, Lahore, throughout the year and delivered the prescribed course of lectures and demonstration on hygiene to the M.B., B. S. Class.

50. The usual classes for the instruction of the District Vaccinators in Elementary Hygiene at the Punjab Vaccine Institute were resumed in the last two months of the year. In the early part of the year Vaccinators were busy making up lee-way after the Influenza Epidemic and the classes could not be held.

51. The Municipalities of Ludhiana, Sialkot and Multan were again unable during the year to secure the services of qualified Health Officers. This subject was referred to in the last Report and since then Government has taken steps to remedy the position. The difficulties in the way of obtaining Health Officers are two—

(1) Insufficient pay and status.

(2) Dearth of qualified Officers.

Government has now removed the first difficulty and measures are in hand to deal with the second.

52. An "Education Bureau" to provide standard lectures, lantern slides, diagrams, etc., has been budgetted for and approved of by the Financial Committee of the Legislative Council.

53. The towns of Mian Channu, Chichawatni Road, Khanewal and Jahanian which were stated to be under construction last year have not yet been completed. Formation of new towns in the vicinity of the North-Western Railway. New mandis at Montgomery and Okara are also in course of construction. The scheme for the proposed new mandi at Montgomery was not sent up to the Sanitary Commissioner for criticism, but on my visit to that place in January 1919 I inspected it and communicated my views on its general lay out in a note to the Commissioner, Multan Division. The Financial Commissioner was also supplied with the views of the Sanitary Commissioner on the general lay out of the Okara Mandi on a reference made by him. A new village of Gunj is also being built near Lahore Cantonment East to replace the old one near the same station.

54. As the Provincial Laboratory of the Punjab the King Edward VII Memorial Research Institute, Medical College, Lahore, reported on specimens and did much work in connection with the preparation and issue of vaccines as noted below. Work of the Provincial Laboratory. In addition the Laboratory assisted in the investigation of Relapsing Fever in the Karnal District, Encephalitis Lethargica in Amritsar, and the general question of shaving brush Anthrax. It is worthy of note that although a large number of brushes from all over the Province were examined none of the brushes was infected :—

(i) Blood examinations	...	...	1,781
(ii) Bacteriological examinations	...	...	828
(iii) Tumours and Histological specimens	...	...	94
Total			2,703

Sources of specimens sent for examinations :—

(i) Blood examinations :—

(a) From the Mayo and Albert Victor Hospitals	...	...	542
(b) From Civil Surgeons, etc.	...	...	1,239
Total			1,781

(ii) Bacteriological examinations :—

(a) From the Mayo and Albert Victor Hospitals	...	...	338
(b) From Civil Surgeons, etc.	...	...	490
Total			828

(iii) Tumours and Histological specimens :

(a) From the Mayo and Albert Victor Hospitals	...	...	66
(b) From Civil Surgeons, etc.	...	...	28
Total			94

Details of various examinations :—

(i) Blood examinations :—

<i>Widal Reaction.</i>	<i>Positive.</i>	<i>Negative.</i>	<i>Total.</i>
(a) B. Typhosus ...	113	194	307
(b) B. Paratyph A. ...	2	259	261
(c) B. Paratyph B. ...	1	260	261
(d) B. Coli ...	273	133	406
(e) B. Dysenteriae ...	0	8	8
(f) M. Melitensis ...	11	111	122
Wassermann Reaction ...	89	42	131
Miscellaneous including films for malaria, blood- counts, differential and total, examinations for spirilla of relapsing fever, etc.			
Total ...	489	1,007	1,496

(ii) Bacteriological examinations :—

(a) Sputa ...	...	...	93
(b) Urines ...	...	...	102
(c) Water samples ...	...	...	35
(d) Shaving brushes ...	...	...	76
(e) Pathological discharges, etc. ...	...	...	522
Total	...	...	828

(iii) Tumours and Histological specimens :—

(a) Simple tumours ...	...	...	19
(b) Malignant Tumours ...	...	...	30
(1) Carcinomata ...	...	...	22
(2) Sarcomata ...	...	...	3
(3) Endotheliomata ...	...	...	5
(c) Other Histological specimens ...	...	...	45
Total	...	...	94

Vaccines prepared ...	...	...	181
Anti-plague inoculation done ...	...	...	27
Anti-Influenza inoculation done ...	...	...	110
Doses of Vaccines issued ...	...	...	2,805
Patients treated with Tuberculin and other Vaccines			158

In conclusion my thanks are due to Mr. Jennings who voluntarily assisted with the office work before taking over the post of Superintendent and to my Head Assistant, M. Maula Bakhsh, who carried on the work of Superintendent in addition to his own duties for three months.

LAHORE :

W. H. C. FORSTER, LIEUT.-COL., I.M.S.,

The 15th May 1920.

Sanitary Commissioner, Punjab.

APPENDIX A.

PROCEEDINGS OF THE SANITARY BOARD, PUNJAB.

I HELD the post of the Secretary throughout the year.

The Board met seven times during the year three times each in Lahore and Simla and once in Multan.

The balance of Rs. 3,73,399 left over from the grant made during 1918-19 was fully utilized.

The following is a detail of the grants sanctioned out of the balance of Rs. 2,73,399 :—

	Rs.
1. Dinanagar Drainage Scheme	11,570
2. Slaughter house and female latrine at Kamalia ...	1,512
3. Execution of drainage at Toba Tek Singh ...	4,250
4. Shujabad Drainage Scheme	1,715
5. Engine house at Handesra (Ambala)	10,190
6. Payment of certain streets in Naraingarh village ...	234
7. Storm Water drainage and filling of depression in the town of Montgomery	71,458
8. Lahore City Dhobi Ghat	15,500
9. Dasuya Safdarpur Drainage Scheme	6,985
10. Rohtak Drainage Scheme	1,04,305
11. Paving of drains and streets in the Bandala village ...	4,000
12. Experimental tube well at the bank of Tongri ...	3,063
13. Rupar Drainage Scheme	10,000
14. Gujranwala Water Supply Scheme	1,28,617
Grand Total ...	3,73,399

A fresh grant of 4 lakhs was placed at the disposal of the Sanitary Board for allotment during 1919-20 and from this the following grants were made upto 31st December 1919 leaving a balance of Rs. 3,42,532-12-0 which will be accounted for in the next year's report :—

	Rs.	A.	P.
1. Pind Dadan Khan Water Supply	258	0	0
2. Ambala Water-Supply Scheme	5,190	0	0
3. Gurdaspur Drainage Scheme	482	0	0
4. Improvement of 3 villages in the Rohtak District	17,523	0	0
5. Dera Ghazi Khan Water-Supply Extension Scheme	198	4	0
6. Dasuya Safdarpur Drainage Scheme	598	0	0
7. Lahore Sewerage Scheme	5,000	0	0
8. Killa Afghanan Drainage Scheme	1,750	0	0
9. Dera Ghazi Khan Water-Supply Extension Scheme	3,152	0	0
10. Shujabad Drainage Scheme	967	0	0
11. Purchase of books	150	0	0
12. Sillanwali Drainage Scheme	13,590	0	0
13. Ambala Water Supply Extension Scheme ...	3,599	0	0
Total ...	57,467	4	0

The schemes noted below were approved by the Board and administrative sanction accorded in each case :—

	Rs.
1. Dinanagar Drainage Scheme	23,141
2. Shujabad Drainage Scheme	18,732
3. Experiment in connection with Ambala Water-Supply Extension scheme	10,190
4. Provision of a pump for Lahore Water-Supply Scheme	90,000
5. Changar Mohalla Drainage Scheme (Lahore City) ...	38,180
6. Dasuya Safdarpur Drainage Scheme	13,920
7. Simla Water-Supply Extension Scheme	24,585
8. Improvement of 3 villages in the Rohtak District ...	26,698

The Sialkot Drainage Scheme at an estimated cost of Rs. 3,44,100 was approved of by the Sanitary Board and submitted to Government in the Civil Department for administrative sanction which was accorded. The Board accorded revised administrative sanction to the schemes noted below :—

	Rs.
(1) Tandlianwala Water-Supply Scheme	81,925
(2) Shujabad Drainage Scheme	20,667
(3) Sillanwali Drainage Scheme	86,000
(4) Dasuya Safdarpur Drainage Scheme	15,166

The Government in the civil department accorded revised administrative sanction to the Rohtak Drainage Scheme at a revised estimated cost of Rs. 2,08,610. The Government in the Public Works Department accorded technical sanction to the schemes noted below :—

	Rs.
(1) Rohtak Drainage Scheme	2,03,610
(2) Acquisition and fencing of Chair Catchment Area ...	2,27,000
(3) Through Mains	1,39,668
(4) Extension of filters at Dhal	83,490
(5) Cherut Balancing Tank	26,957
(6) Improvement to Weir at Chair and enlarging sedimentation tank.	9,400
(7) Tandlianwala Water-Supply Extension Scheme ...	81,925

The constitution of the Board was decreased by one member, as the Secretary to Government, Punjab, Public Works Department, Irrigation Branch, ceased to be member of the Board with effect from 26th February 1919.

The Board is actively developing the general sanitation of the Urban Areas and now makes a practice of holding sessions in towns to discuss important questions with local representatives. This procedure is having an excellent educative effect and many misapprehensions have been removed in consequence. It further has the very desirable effect of bringing home to Municipal Committees that the Board is no mere academic institution. During the year one such session was held at Multan. In regard to technical matters the Board is proceeding on certain well defined lines of policy. The introduction of the Water Carriage System—the goal of all Sanitarians—is being carefully and skilfully regulated under Mr. Astbury's guidance, and a start on really modern lines has been arranged for in a selected portion of Lahore. Water supply problems have received much attention and in addition to financing most valuable experiments the Board has undertaken to finance others which have an important bearing on the general question. An outstanding example of the value of this policy is the water supply of Ambala. The problem is an extraordinarily difficult one but by his ingenious device of laying horizontal strainers in the bed of the Tangri river Mr. Astbury has undoubtedly found the solution. The Board financed the whole work as an experiment with the happy result that we are now in the position of putting down the pumping plant to deliver the water.

Arrangements for the detailed survey of our seven largest towns have been made and the work will be undertaken as soon as the Survey Department can supply the staff. The Board has further adopted the policy of "conditioning" grants-in-aid in order to secure the best results and bring Municipal Committees to a sense of their responsibilities. This policy is naturally not popular with Municipal Committees but it is in the best interests of the public health and in time will be productive of much good.

APPENDIX B.

ANNUAL REPORT OF THE SANITARY ENGINEER TO GOVERNMENT, PUNJAB FOR THE YEAR 1919.

THROUGHOUT the year the post of Sanitary Engineer to Government, Punjab, was held by Mr. A. R. Astbury, A.M.I.C.E., and that of Assistant Sanitary Engineer by Rai Sahib Dewan Amar Nath Nanda, B.A. The post of Personal Assistant to the Sanitary Engineer was sanctioned by the Local Government during the year and Mr. Dina Nath Gautam, B. Sc. (London), was appointed from 1st December 1919. The Sanitary Sub-Division has continued in the charge of Lala Lal Chand, Supervisor, and Lala Nand Lal, Overseer, has been attached to this Circle mainly in connection with experimental work and boring operations.

During the year the Sanitary Engineer visited Amritsar, Lyallpur, Chak Jhumra, Delhi, Jullundur, Rupar, Sargodha, Pind Dadan Khan, Khushab, Sangla, Simla, Rewari, Kalka, Kufri, Seog, Dharampur, Pathankot, Madhopur, Gurdaspur, Ambala, Sanawar, Multan, Chuharkana, Karnal, Rohtak.

In company with the Sanitary Commissioner the Sanitary Engineer was deputed by the Local Government to study the drainage and water supply systems of Bombay and Poona, and subsequently those of Delhi and Jammu. These visits have been invaluable in enabling him to keep in touch with the most progressive schemes in India.

The Sanitary Engineer was appointed by Government Member and Secretary of the Special Committee to deal with the larger schemes for the improvement of the Sanitary conditions of the town of Amritsar. The report of this Committee issued in January.

The Sanitary Engineer also served on a special Committee on the water supply of Simla whose report was issued in August. He has also served on Committees in connection with the allocation of Government sites in Lahore, and on the Gazetted Officers' Residences Estate, Lahore.

The Sanitary Engineer continued during the year to serve as Chairman of the Board of Examiners under the Punjab Steam Boilers and Prime Movers Act, and conducted two half-yearly examinations for the grant of certificates under the Act.

He also acted as Examiner in Minor Sanitary Engineering for the Sanitary Inspector's Annual Examination while the Assistant Sanitary Engineer delivered a course of lectures in this subject to the students of the Sanitary Inspector's Class.

The Sanitary Engineer has compiled notes on the Multan Drainage Schemes, "and the Water Supply of Rawalpindi," both of which have been printed and issued by Government. His report on the drainage of the Dasuya Tahsil of the Hoshiarpur District has also been printed and issued.

During the year the system has been started of keeping ledger files dealing with separate branches of sanitary practice. Over 100 files of this kind are now on record enabling the Sanitary Engineer's staff to have very ready and easy access to a large range of miscellaneous information. The difficulty of keeping touch with the many different schemes in the Province has led the Sanitary Engineer to compile concise histories of several schemes for ready reference. About 20 such histories, concerning water supplies are now on record. Special registers have also been commenced where records are kept in systematic order of all water analyses reported and of all borings made. These will afford great help in future in predicting the probable quality of water and yield from wells throughout the Province.

Lahore Water Supply.—The Davis Road tube well has been sunk and is working very satisfactorily yielding about 30,000 gallons an hour. The water is of good quality both chemically and from the bacteriological aspect. The Municipal Water Supply of Lahore has now as auxiliary sources of supply the following tube wells :—

Ferozepore Road	...	...	...	17,000 gallons an hour.
Lake Road	...	...	...	30,000 " " "
Davis Road	...	...	...	30,000 " " "
Total				77,000 " " "

During the month of June the independent tube wells supplied about 1-6th of the total municipal supply. The average daily quantity pumped during the month of June from all sources has been—

1916	...	...	...	3.25 million gallons.
1917	...	...	...	3.42 " "
1918	...	...	...	3.99 " "
1919	...	...	...	5.37 " "

Six tube well strainers have been sunk at Badami Bagh in existing wells. There are now 17 tubes in the 23 wells, 12 are sunk in the 12 foot diameter wells and 5 in the 20 foot wells.

A new suction main has been laid at Badami Bagh to connect three of the wells of the original scheme of 1881 to the pumping station. This main relieves the old line of trench wells of the duty of conveying the water from the circular percolation wells to the engine house. The trench wells have been showing signs of failure for a long time past, and the new suction main should be extended so as to connect up all 5 of the old wells.

A second Hathorn-Davey vertical high duty pump to deliver 200,000 gallons an hour has been ordered by the Committee and will be erected in 1920.

In spite of the increased quantity pumped and the introduction of the three tube wells in outlying parts of the distribution system the supply is still intermittent and parts of the Civil Station are very badly served, both as regards quantity and pressure.

Bye-laws have been framed by the Municipal Committee of Lahore for the regulation of the water-supply system and were confirmed by the Local Government in Gazette Notification No 10164 of April 18, 1919.

Lahore Sewerage Scheme.—The Lahore Sewerage Scheme came under the full consideration of the Sanitary Board at their meeting of the 19th February, it was formally approved but for reasons brought forward by the Sanitary Commissioner the Board held that subject to an adequate water supply the scheme should be taken up gradually and with an educational object. The area selected for a commencement was to be one mainly inhabited by Indians. The Sanitary Commissioner and Sanitary Engineer submitted notes containing criticisms of the proposals to which the Board invited the attention of the Chief Engineer.

The Municipal Engineer, Lahore, and the Sanitary Engineer in consultation selected Anarkali and a part of Mozang, and the Sanitary Board made a grant of Rs. 5,000 to the Lahore Municipal Committee for payment to Messrs. Lane Brown and Hewlett for the preparation of a revised scheme in those areas to embody modifications suggested in a joint note by the Municipal and Sanitary Engineer.

Lahore Storm Water Drainage.—Storm water drains of Lawrence, Mozang and Thornton Roads have been completed resulting in greatly improved conditions in the vicinities of these roads during the rains. A few minor extensions of the surface drainage system have been carried out at a total cost of Rs. 5,873.

Lahore Sewage purification plant, Government House.—The sewage purification plant is being remodelled, and it is hoped that the defects in the present plant will be eliminated.

Lahore. Water supply for the Chief Malaria Medical Officer and Chemical Examiner's Laboratories.—It was intended to sink a tube well for the exclusive use of these buildings, but instead it has been decided to draw municipal water direct from the Mozang reservoir. The Laboratory for the Chief Malaria Medical Officer has not yet been constructed.

Lahore. Draining the site of Gazetted Officers' Residences.—The storm drainage scheme has been completed but an extension of it through the Lawrence Gardens remains to be done.

Lahore. Combined Water Supply for Preparatory School, Queen Mary College.—A 7-inch diameter tube well has been sunk and is working satisfactorily, water is slightly brackish but is better than that of the water in the main College grounds.

Amritsar Dhobi Ghât.—This is working satisfactorily. The Committee has provided Rs. 4,000 in next year's budget for construction of another similar Dhobi Ghât.

Amritsar Sewerage.—The main sewer from Dhab Sant Singh and Aitchison Park has been cleaned at a cost of Rs. 1,500 and the cleaning from Town Hall and storm water channel is in progress.

Amritsar Drainage.—Rs. 10,000 have been spent during the year on new drains and pavements of several lanes in the city.

Bhara Drainage.—This work was completed during the year 1918. Land compensation still remains to be paid by the Deputy Commissioner, Shahpur.

Chiniot Drainage flushing arrangement.—The work on the flushing tank was started but has been stopped because the soil at the site has proved unsuitable for the foundations. The work will be restarted when the revised estimate is sanctioned.

Lala Musa Drainage.—Estimated cost Rs. 74,541. Nearly completed.

Lyallpur Water-Supply Extension—Estimated cost Rs. 155,530. Expenditure to date Rs. 1,15,817. This work which has practically been completed comprise the following improvements and additions :—

- (1) Addition to storage accommodation.
- (2) Constructing an additional High Level Tank and 3 filter beds.
- (3) Constructing an additional clear water reservoir.

- (4) Widening the mill-race escape channel
- (5) New pumping plant (Worthington Horizontal driven by a Poncelet wheel).
- (6) Enlarging the rising main.
- (7) Enlarging two of the distribution mains.
- (8) Enlarging the feeding and draw off pipes of the storage tank and filter beds.

With the exception of item (5) these works have been completed. The pump was received in September 1919 and is now being erected. The plates of the Poncelet wheel were made 1/16" by an oversight and are being replaced gratis by 1/8" plates by Messrs. Worthington Simpson.

Construction of retaining wall in the mill channel.—Amount of estimate Rs. 2,915.

Expenditure to date Rs. 2561.

This wall is required to prevent the erosion taking place in the mill channel banks.

Providing a scour pipe to the clear water reservoir.—Amount of estimate Rs. 1,768.

A 4" scour pipe will be used to empty the clear water tanks for periodical cleaning. The water gravitates to the sump well from where it can be pumped into the escape channel.

Raising of the walls of the storage tanks.—Amount of estimate Rs. 6,963.

The full supply level of the Rakh Branch having been raised by 9" the height of the storage tank wall is being raised by the same amount to provide for the additional storage made available and to prevent the tanks overflowing.

Special repairs to the High Level Tank.—The tank was probably built on filling and settlement has taken place. It is intended to rebuild the cracked portion of the wall and to provide a floor of 3" cement concrete over the existing one.

Rupar Drainage.—Estimated cost Rs. 37,852.

Expenditure up to 31st December 1919 Rs. 43,523.

The work is completed with the exception of a part of the intercepting drain, regarding which there was some controversy as to the best alignment. This having been settled now the work should be completed without delay.

Kalka Drainage.—Expenditure to end of year was Rs. 35,278 against the sanctioned estimate for Rs. 36,531. The work has been completed according to the sanctioned estimate. A flushing arrangement will be provided by connection with the East Indian Railway pipe line.

Rewari Water Supply—

					Rs.
Estimated cost	...	...	...	...	3,15,873
Expenditure to date	...	...	...	...	3,00,381

The trenching has been taken down to full depth and work on the masonry barrel for the suction main has been commenced. The special pipes that were lost on the Railway have been ordered afresh, lost a second time and ordered a third time. The painting of the reservoir has been completed. A ten inch strainer tube has been sunk in No. 4 well. The supply should be available to the public by the middle of May 1920.

Jullundur City.—Sinking a tube well in the Empress Gardens at—

					Rs.
Estimated cost	...	...	...	...	7,092
Expenditure to date	...	...	...	...	10,753

The masonry well was completed and strainer and plain pipe lowered in position in September 1918. The casing pipe when being pulled out broke in the middle and lower half was left behind. Since then a series of mishaps has occurred. Efforts are now being made to extract the buried casing pipe out by means of a special tool, invented by the Workshop Foreman of the Bahawalpur State. After the casing pipe is pulled out and strainer exposed sand will be cleared from the inside and the upper portion of the plain pipe (which was removed) replaced in position. The engine sump will then be built and the engine and pump which are at site will be installed.

Jullundur City.—Trial boring in the proposed Police lines at—

					Rs.
Estimated cost	...	...	...	...	998
Expenditure to date	...	...	...	...	785

This is a 200 feet boring undertaken to ascertain the suitability of the subsoil for a tube well water supply for the proposed Police lines. Work was started in the beginning of October 1919 and completed by the end of December 1919.

The result is hopeful, a bed of good coarse water bearing sand over 60' in depth has been found. No special difficulties have been met with in this work.

Dera Ghazi Khan water-supply extension.—Estimated cost Rs. 1,85,708, expenditure to end of year Rs. 1,86,634. The work has been completed. No. 3 tube wells tends to clog but No. 4 is behaving fairly well in this respect.

Shujabad Drainage.—Estimate amounting to Rs. 15,302 has been sanctioned. The work is being arranged for by the Public Works Department departmentally as no contractor has yet come forward.

Rohtak Drainage.—The sanctioned estimate amounts to Rs. 2,08,610 and the local body have entrusted the work to the Public Works Department, Rs. 15,019 were spent by the Executive Engineer, Gurgaon Provincial Division, up to end of December 1919 in buying materials for the work. No construction work has yet been done. The levels have been checked.

The survey staff of this office has been fully employed on preparing sanitary schemes for local bodies.

The following rough and fair schemes for which survey and levelling was done were worked out in detail in this office.

Preliminary estimates—

	Rs.
(1) Sialkot Drainage Scheme	3,44,133
(2) Pasrur ditto	3,955
(3) Flushing arrangements at Pattoki Mandi	9,988
(4) Paving and draining in new Mandi at Pattoki	2,916
(5) Sonapat Drainage Scheme	1,09,091
(6) Naraingarh Drainage Scheme	10,104
(7) Muktsar storm water Drainage Scheme	41,270
(8) Lahore Cantonment Drainage Scheme	39,293
(6) Gujranwala Drainage Scheme	1,77,122
(10) Trial boring at Chuharkana	835

Detailed estimates—

(1) Panipat Extra-mural Drainage... ..	71,945
(2) Hoshiarpur Drainage	2,10,141
(3) Sangla Drainage	38,695
(4) Special repairs to Hindu students' lavatory attached to Boarding House, Queen Mary College, Lahore	2,623
(5) Constructing Dhobi Ghât for Gazetted Officers' Residences at Lahore	15,458

The total cost of the outdoor establishment, including draftsmen employed on the preparation of plans for the schemes, comes to Rs. 4,806 for the year. The project both rough and fair prepared by the Executive Engineers in the Public Works Department or local bodies that received technical approval of this office were 34 in number with a total estimated cost Rs. 29,23,451.

The accompanying statement shows water pumped at the various water-works in the Province together with the cost of pumping.

A. R. ASTBURY,

Sanitary Engineer to Government, Punjab.

[illegible]

APPENDIX C.

Statement showing the death rates from cholera, small-pox, fevers and dysentery and diarrhoea for the five years preceding and for the period since the introduction of drainage or water-supply or both in the undermentioned towns :—

Towns.			DATE OF COMPLETION OF WORKS OF		AVERAGE ANNUAL DEATH RATE SINCE THE INTRODUCTION OF DRAINAGE OR WATER-SUPPLY OR BOTH.				AVERAGE ANNUAL DEATH RATE FOR THE FIVE YEARS' PERIOD PRECEDING THE INTRODUCTION OF DRAINAGE OR WATER-SUPPLY OR BOTH.				REMARKS.
			Drainage.	Water supply.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhoea.	
1	2	3	4	5	6	7	8	9	10	11	12		
Ambala	1895	0.5	0.5	13.1	3.4	0.5	0.4	19.3	6.4		
Simla	1893	1893	0.02	0.4	13.6	0.8	...	1.1	17.1	1.4	
Ludhiana	1895	1909	0.4	0.9	18.8	1.9	0.4	2.7	20.8	1.6	
Jagraon	1907	...	0.5	1.3	14.5	1.5	0.6	1.5	9.3	2.0	
Ferozepore	1916	...	0.6	0.7	13.3	1.5	0.2	0.7	9.8	1.1	
Zira	1913	...	0.6	2.1	18.9	0.8	0.3	4.0	16.6	0.9	
Fazilka	1913	...	1.5	1.5	23.9	2.0	2.2	2.6	21.4	1.7	
Lahore	1881	0.7	0.8	17.6	1.6	1.9	1.6	27.8	2.3	
Amritsar	1885	1904	0.7	1.3	23.2	2.0	0.4	0.7	31.3	1.8	
Gurdaspur	1914	...	0.2	0.7	18.6	3.0	0.8	0.5	13.2	2.6	
Dalhousie	1894	0.1	0.1	12.2	2.0	...	...	9.6	2.4	
Pathankot	1915	...	0.8	0.9	23.7	4.0	0.8	0.7	12.4	2.8	
Sialkot	1915	0.9	0.2	11.8	2.6	3.0	1.2	9.6	2.3	
Gujranwala	1892	...	0.6	0.8	18.6	1.3	0.5	0.6	19.7	1.7	
Gujrat	1906	...	1.1	0.4	20.5	1.9	0.3	0.2	16.9	1.9	
Bhera	1917	...	...	0.4	25.7	2.3	0.03	0.7	17.8	1.7	
Sargodha	1907	1907	...	0.3	8.1	0.5	Not available				
Jhelum	1908	...	0.1	0.5	14.1	1.7	1.5	0.3	14.0	2.1	
Pind Dadan Khan	1909	1909	0.1	0.9	23.0	3.3	1.1	0.7	23.1	3.6	
Rawalpindi	1907	1887	0.6	0.3	19.0	2.3	0.5	0.1	16.4	3.4	
Murree	1894	0.1	0.1	16.4	2.1	0.7	0.4	14.8	0.9	
Mianwali	1904	0.2	0.6	21.7	2.3	Not available				
Lyallpur	1904	1904	0.1	0.8	12.0	0.9	2.8*	0.4*	16.3*	2.1*	
Gojra	1916	0.1	0.4	8.5	0.5	†	†	0.5†	†	
Multan	1907	...	0.3	0.7	19.7	2.4	0.01	1.9	16.9	2.4	
Dera Ghazi Khan	1913	0.1	0.5	17.5	2.3	2.0	0.6	15.9	1.6	
Kalka	1890	0.4	0.1	14.4	2.4	1.7	0.2	15.2	3.9	

* Figures available for four years only.

† Figures for 1914 and 1915 only.

ANNUAL FORM No. I.

STATEMENT SHOWING THE BIRTHS REGISTERED IN THE DISTRICTS OF THE PUNJAB
DURING THE YEAR 1919.

1		2		3			4			5			6	7	8	9			10
		POPULATION ACCORDING TO CENSUS OF 1911.*			NUMBER OF BIRTHS REGISTERED.			RATIO OF BIRTHS PER 1,000 OF POPULATION.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	MEAN RATIO OF BIRTHS PER 1,000 DURING PREVIOUS FIVE YEARS.					
DISTRICTS.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.			
No.		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	No.		
AMBALA DIVISION.																			
1	Hissar ...	438,458	366,431	804,889	17,027	15,649	32,276	21.2	18.9	40.1	111.7	12.0	...	25.0	22.9	47.9	1		
2	Rohtak ...	385,401	323,433	714,834	16,445	14,917	31,362	23.6	20.9	43.9	110.2	8.9	...	27.0	24.9	51.9	2		
3	Gurgaon ...	389,215	339,552	729,167	15,731	13,673	29,404	21.6	18.7	40.3	115.1	1.3	...	26.1	23.2	48.3	3		
4	Ka nal ...	47,698	36,033	79,787	17,851	13,055	33,916	22.3	20.1	42.4	11.2	7.2	...	25.5	24.2	50.6	4		
5	Amalala ...	357,770	275,083	632,553	12,935	11,739	24,704	26.5	18.6	29.1	116.4	7.1	...	22.8	21.2	44.0	5		
6	Simla ...	22,015	12,955	34,970	407	332	739	11.6	9.5	21.1	122.6	...	7.7	11.2	9.9	21.1	6		
JULLUNDUR DIVISION.																			
7	Kargra ...	298,401	368,285	766,686	12,988	11,933	24,921	13.9	17.6	32.5	108.8	6.5	...	18.8	17.6	36.5	7		
8	Hoshiarpur ...	501,510	417,659	918,569	18,624	16,338	34,962	10.3	17.8	38.1	11.0	13.7	...	21.7	20.1	41.8	8		
9	Jullundur ...	44,599	347,357	787,956	16,515	15,218	31,733	21.0	19.3	40.3	108.5	15.4	...	23.4	22.1	45.4	9		
10	Ludhiana ...	293,531	222,611	515,192	11,228	10,257	21,485	21.7	18.8	41.5	109.5	15.1	...	25.6	23.8	49.4	10		
11	Ferozepore ...	420,368	412,631	933,499	20,902	18,294	39,236	22.5	19.6	42.1	114.7	14.1	...	25.8	23.5	49.3	11		
LAHORE DIVISION.																			
12	Lahore ...	514,438	436,244	1,017,742	24,331	22,198	47,129	24.5	21.6	46.3	112.3	18.1	...	25.2	22.9	48.1	12		
13	Amritsar ...	495,533	383,778	879,311	20,675	18,485	39,160	23.5	21.0	44.5	111.8	17.0	...	25.7	23.7	49.4	13		
14	Gurdaspur ...	466,115	366,416	832,531	17,211	15,813	33,024	20.8	19.0	39.8	109.5	14.0	...	24.3	22.8	47.6	14		
15	Sialkot ...	53,755	432,524	963,279	20,239	1,158	28,397	21.0	18.9	39.9	111.5	14.4	...	24.6	22.4	47.0	15		
16	Gujranwala ...	518,251	405,168	923,419	20,854	17,902	38,766	22.6	19.4	42.0	116.5	11.9	...	22.7	20.0	42.7	16		
RAWALPINDI DIVISION.																			
17	Gujrat ...	400,596	345,038	745,634	14,546	12,927	27,473	19.5	17.3	36.8	112.5	8.9	...	21.9	19.9	41.9	17		
18	Shahpur ...	376,886	310,480	687,366	12,125	11,783	24,714	19.1	16.9	36.0	113.3	14.5	...	20.6	18.1	38.8	18		
19	Jhelum ...	212,228	241,957	504,185	8,591	7,503	16,594	17.3	15.3	32.9	115.4	6.0	...	18.9	16.7	35.6	19		
20	Rawalpindi ...	267,724	239,918	507,642	9,311	8,692	18,533	19.4	17.1	36.5	113.2	8.8	...	19.8	18.1	37.8	20		
21	Attock ...	270,392	241,894	515,286	9,539	8,246	7,785	18.5	16.0	34.5	115.7	5.0	...	19.7	17.3	37.0	21		
22	Mianwali ...	179,897	161,410	341,377	7,855	6,930	14,785	23.0	20.3	43.3	113.3	15.3	...	21.8	19.1	40.9	22		
MULTAN DIVISION.																			
23	Montgomery ...	276,119	227,936	504,115	11,713	11,842	27,555	21.2	23.5	50.7	115.8	19.0	...	23.6	21.0	44.5	23		
24	Lyallpur ...	503,444	385,551	888,595	23,051	20,492	43,543	25.9	23.1	49.0	112.5	22.7	...	25.3	23.1	48.4	24		
25	Jhang ...	277,288	238,398	515,526	12,337	10,921	23,258	23.9	21.2	45.1	113.0	20.4	...	23.7	21.0	44.7	25		
26	Multan ...	435,110	365,365	801,375	18,906	15,916	34,112	22.7	19.9	42.6	114.3	15.6	...	21.2	18.5	39.7	26		
27	Muzaffargarh ...	303,350	261,111	569,431	9,965	8,393	18,358	17.5	14.7	32.2	118.7	6.2	...	18.6	15.8	34.4	27		
28	Dera Ghazi Khan ...	272,469	227,451	499,860	7,146	5,616	12,762	14.3	11.2	25.5	127.2	3.8	...	15.5	12.6	28.1	28		
Total ...		10,608,101	8,729,045	9,337,146	412,018	365,828	778,846	21.4	18.9	40.3	112.9	12.0	...	23.1	21.0	44.1			

* Excluding population of military cantonments.

† The statistics of new district of Sheikhupura have not been shown separately this year, as it was constituted in the month of November 1919.

STATEMENT OF BIRTHS AND DEATHS REGISTERED IN EACH

1	2	3	4	5			6				7		
No.	DISTRICTS.	Area in square miles.	Average population per square mile.	POPULATION (CENSUS 1911).			BIRTHS.				NUMBER OF DEATHS REGISTERED.		
				Males.	Females.	Total.	Males.	Females.	Total.	Birth rate per mille of population.	Males.	Females.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
AMBALA DIVISION.													
1	Hissar ...	5,213	154	438,458	366,431	804,889	17,627	15,249	32,276	40.1	12,032	10,606	22,638
2	Rohtak ...	2,216	318	385,401	329,433	714,834	16,445	14,917	31,362	43.0	13,074	11,912	24,986
3	Gurgaon ...	2,264	522	389,215	339,952	729,167	15,73	13,63	29,404	40.3	14,647	13,765	28,413
4	Karnal ..	3,153	254	437,698	362,059	799,757	15,861	13,055	33,916	42.4	14,838	13,301	28,139
5	Ambala ..	1,851	342	357,470	275,013	632,483	12,965	11,739	24,704	39.1	10,867	9,395	20,262
6	Simla ...	101	316	22,015	14,955	36,970	407	332	739	21.1	598	408	1,006
JULLUNDUR DIVISION.													
7	Kangra ...	9,978	77	398,401	368,285	766,686	12,988	11,933	24,921	32.5	12,325	11,970	24,295
8	Hoshiarpur ...	2,247	409	501,510	417,059	918,569	18,024	16,338	34,962	38.1	13,180	11,985	25,165
9	Jullundur ...	1,431	551	440,599	347,357	787,956	16,515	15,218	31,733	40.3	10,130	9,497	19,627
10	Ludhiana ...	1,452	356	293,531	223,661	517,192	11,228	10,257	21,485	41.5	6,964	6,702	13,666
11	Ferozepore ...	4,286	218	520,868	412,631	933,499	20,992	18,294	39,286	42.1	13,894	11,920	25,814
LAHORE DIVISION.													
12	Lahore ...	2,824	760	581,498	436,244	1,017,742	24,931	22,198	47,129	46.3	15,502	13,191	28,693
13	Amritsar ...	1,601	549	495,533	383,778	879,311	20,075	18,485	39,160	44.5	13,162	11,018	24,180
14	Gurdaspur ...	1,889	411	406,115	366,446	832,561	17,321	15,813	33,134	39.8	11,661	9,812	21,473
15	Sialkot ...	1,991	484	530,755	432,524	963,279	20,239	18,158	38,397	39.9	13,139	11,444	24,583
16	Gujranwala ...	4,082	226	518,251	405,163	923,419	20,864	17,902	38,766	42.0	15,328	12,429	27,757
RAWALPINDI DIVISION.													
17	Gujrat ...	2,051	364	400,596	345,038	745,634	14,546	12,927	27,473	36.8	10,975	9,842	20,817
18	Shahpur ..	5,037	135	376,886	310,450	687,336	13,125	11,589	24,714	36.0	8,540	6,708	14,748
19	Jhelum ...	2,813	179	262,228	241,937	504,165	8,891	7,703	16,594	32.9	7,278	6,301	13,579
20	Rawalpindi ...	2,010	253	267,724	219,918	507,642	9,841	8,692	18,533	36.5	7,355	6,711	14,066
21	Attock ...	4,025	128	270,392	214,894	515,286	9,539	8,246	17,785	34.5	8,034	7,177	15,211
22	Mianwali ...	5,395	63	179,897	161,430	341,327	7,855	6,930	14,785	43.3	5,080	4,486	9,566
MULTAN DIVISION.													
23	Montgomery ...	4,465	113	276,119	227,926	504,115	13,713	11,842	25,555	50.7	8,607	7,395	16,002
24	Lyallpur ...	3,340	266	503,644	385,251	888,895	23,051	20,492	43,543	49.0	12,348	11,029	23,377
25	Jhang ...	3,363	153	277,128	233,398	515,526	12,337	10,921	23,258	45.1	6,658	6,053	12,711
26	Multan ...	6,107	131	435,410	365,965	801,375	18,196	15,516	34,112	42.8	11,466	10,203	21,669
27	Muzaffargarh ..	6,052	94	308,350	261,111	569,461	9,965	8,393	18,358	32.2	7,924	6,798	14,722
28	Dera Ghazi Khan...	5,325	94	272,409	227,451	499,860	7,116	5,616	12,762	35.52	6,094	4,745	10,839
Total ...		96,654	200	10,608,101	8,729,045	19,337,146	413,018	365,828	778,846	40.3	291,266	256,804	548,070

NOTE.—Those born dead are not

No. II.

DISTRICT OF THE PUNJAB DURING THE YEAR 1919.

8	9											10			11
Number of deaths of males to every 100 deaths of females.	DEATHS PER 1,000 OF POPULATION FROM											MEAN RATIO OF DEATHS PER 1,000 DURING PREVIOUS FIVE YEARS.			No.
	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	All causes.			Males.	Females.	Total.	
	15	17	18	19	20	21	22	23	Males.	Females.	Total.	27	28	29	30
113.5	0.04	1.3	0.6	19.6	0.4	0.9	0.3	5.0	27.5	28.9	28.1	41.0	49.3	44.7	1
109.8	0.1	0.1	4.5	20.0	0.4	1.5	0.4	7.3	33.9	36.2	35.0	44.9	53.8	49.0	2
106.4	0.7	0.1	0.1	25.3	0.7	1.4	0.3	10.4	37.6	40.5	39.0	54.9	64.3	59.3	3
111.6	0.	0.5	0.02	21.9	0.4	1.4	0.3	7.3	33.9	36.7	31.2	43.1	50.7	46.7	4
115.7	0.1	0.5	0.1	21.5	0.	4.1	0.3	4.5	30.4	31.2	32.0	39.7	49.3	43.8	5
144.3	...	0.4	...	15.7	0.27	3.2	0.1	7.0	27.2	31.5	28.9	24.8	31.5	27.3	6
103.0	0.02	0.2	...	21.4	0.6	4.6	0.4	4.6	30.9	32.5	31.7	35.1	36.8	35.9	7
110.0	0.02	2.2	0.1	18.8	0.04	2.4	0.2	3.6	28.3	28.7	27.4	35.4	40.1	37.6	8
106.1	0.2	0.5	0.2	17.0	0.4	1.9	0.3	4.4	23.0	27.3	24.9	37.7	46.5	41.6	9
103.9	0.02	1.2	0.1	14.3	0.4	1.9	0.3	8.2	23.7	30.0	26.4	44.2	55.9	49.3	10
116.6	0.3	1.3	1.2	16.0	0.3	1.3	0.3	6.5	26.7	28.9	27.7	39.9	46.8	49.0	11
117.5	0.5	1.2	1.6	15.8	0.5	1.9	0.4	6.3	26.7	30.2	28.2	41.9	49.8	45.2	12
119.5	0.5	0.7	0.02	18.2	0.4	3.3	0.6	3.9	26.0	28.7	27.5	44.8	53.8	48.8	13
113.8	0.1	0.7	0.1	14.3	0.6	6.4	0.3	3.5	25.0	26.8	25.8	43.5	51.1	46.9	14
114.8	0.1	0.8	0.3	16.2	0.6	3.2	0.3	4.2	24.3	26.5	25.5	41.1	47.2	43.9	15
123.3	0.9	0.4	0.5	23.4	0.2	0.6	0.5	3.6	29.6	30.7	30.1	47.5	55.5	51.9	16
111.5	0.4	0.6	0.04	20.4	0.4	2.1	0.3	3.8	27.4	28.5	27.9	42.5	47.4	44.8	17
119.9	0.3	0.6	0.1	14.5	0.3	1.0	0.4	4.2	21.3	21.6	21.5	36.8	41.1	33.7	18
115.5	0.2	1.7	0.8	17.2	0.4	2.0	0.3	4.3	27.8	26.0	23.9	39.5	42.8	41.1	19
107.6	1.2	0.4	0.6	16.1	3.1	2.7	0.6	3.1	27.5	28.0	27.7	42.2	46.4	44.2	20
111.9	3.9	0.5	1.6	18.3	0.1	1.1	0.3	3.1	29.7	29.3	29.5	37.4	39.6	33.5	21
113.2	1.0	0.04	0.01	21.2	0.5	0.8	0.3	4.2	28.2	27.8	28.0	40.1	42.3	41.3	22
116.4	0.01	2.6	1.8	22.4	0.1	0.2	0.5	4.2	31.2	32.4	31.7	39.0	44.3	41.4	23
112.0	1.6	1.3	0.4	16.3	0.4	0.8	0.4	5.2	24.5	23.6	26.3	30.6	38.5	34.0	24
110.0	0.2	0.5	0.1	16.0	0.5	0.6	0.4	6.4	24.0	25.4	24.7	37.4	40.8	39.0	25
112.4	0.1	0.2	0.5	20.5	0.4	1.0	0.4	4.2	26.3	27.9	27.0	40.3	43.9	41.9	26
117.4	0.002	0.33	0.002	22.9	0.1	0.4	0.4	2.1	25.9	26.0	26.0	40.1	41.4	40.7	27
128.4	0.1	0.03	0.002	19.0	0.1	0.2	0.2	2.0	22.4	20.9	21.7	36.9	38.7	37.7	28
113.4	0.4	0.8	0.6	18.9	0.5	2.0	0.4	4.9	27.5	29.4	28.3	40.8	40.9	43.6	

cluded in this or any other statement.

ANNUAL FORM No. III.

DEATHS REGISTERED IN THE DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1919.

1	2	3												4
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.
No.	DISTRICTS.													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	AMBALA DIVISION.													
1	Hissar ...	2,167	1,730	1,755	2,098	2,163	3,060	1,704	1,118	1,637	2,069	1,635	1,438	22,644
2	Rohtak ...	1,734	1,440	2,111	2,810	2,662	2,794	1,405	1,095	1,710	2,614	2,574	2,007	24,986
3	Gurgaon ...	1,976	1,492	1,457	1,683	1,869	2,072	1,284	1,355	2,553	5,045	4,443	3,187	23,413
4	Karnal ...	2,189	1,332	1,314	1,547	2,421	3,180	1,912	1,732	2,560	3,546	2,320	2,688	23,139
5	Ambala ..	1,621	1,075	1,129	1,123	1,419	1,642	1,174	1,089	1,890	2,377	2,774	2,610	20,232
6	Simla ...	75	53	46	53	85	64	91	105	102	91	93	143	1,006
	JULLUNDUR DIVISION.													
7	Kangra ..	3,188	2,038	1,411	1,315	1,672	2,001	1,553	1,549	2,316	2,292	2,207	2,693	24,295
8	Hoshiarpur ...	1,848	1,451	1,579	1,733	2,019	2,100	1,520	1,594	2,611	3,108	2,731	2,871	25,165
9	Jullundur ...	1,407	1,233	1,296	1,373	1,452	1,499	1,253	1,416	2,074	2,253	2,210	2,131	19,627
10	Ludhiana ...	1,252	921	1,042	893	1,066	1,081	806	904	1,260	1,464	1,547	1,430	13,666
11	Ferozepore ...	2,543	1,980	2,215	2,413	2,298	2,208	1,838	1,464	1,966	2,129	2,521	2,239	25,814
	LAHORE DIVISION.													
12	Lahore ...	2,448	1,957	2,135	2,348	2,918	2,648	2,184	2,029	2,812	2,292	2,353	2,520	28,693
13	Amritsar ...	2,109	1,613	1,487	1,592	1,920	2,001	1,741	1,959	2,575	2,242	2,511	2,420	24,180
14	Gurdaspur ...	1,945	1,319	1,230	1,237	1,591	1,502	1,292	1,363	2,139	2,968	2,488	2,249	21,473
15	Sialkot ...	1,901	1,650	1,477	1,325	1,959	1,984	1,456	1,524	2,096	3,143	2,724	2,684	24,583
16	Gujranwala ...	3,721	2,388	2,237	1,448	1,992	2,275	2,427	1,487	1,895	2,215	2,574	2,993	27,767
	RAWALPINDI DIVISION.													
17	Gujrat ...	2,185	1,649	1,419	1,126	1,194	1,436	1,493	1,213	2,202	2,419	2,200	2,221	20,817
18	Shahpur ...	1,672	1,243	1,177	1,058	1,033	1,472	1,311	938	993	1,132	1,265	1,195	14,743
19	Jhelum ...	1,083	943	939	913	1,115	1,150	1,100	752	1,117	1,353	1,445	1,589	13,519
20	Rawalpindi ...	1,163	958	975	841	919	1,108	1,297	1,015	1,377	1,331	1,516	1,566	14,066
21	Attock ...	1,416	1,164	1,041	1,047	1,259	1,467	2,588	980	992	1,014	1,174	1,079	15,211
22	Mianwali ...	1,131	789	748	615	727	855	923	559	785	724	798	871	9,563
	MULTAN DIVISION.													
23	Montgomery ...	2,145	1,655	1,287	1,203	1,404	1,281	994	917	839	1,228	1,238	1,761	16,702
24	Lyallpur ...	1,712	1,373	1,594	1,547	2,272	2,200	2,789	1,847	2,013	1,605	2,052	2,169	23,377
25	Jhang ...	1,665	1,112	1,101	838	932	951	892	818	980	970	1,105	1,297	12,711
26	Multan ...	3,043	2,151	1,877	1,591	1,543	1,402	1,141	1,146	1,452	1,905	2,109	2,311	21,669
27	Muzaffargarh ...	1,849	1,418	1,243	1,043	1,158	983	861	713	841	1,158	1,532	1,933	14,782
28	Feroz Ghazi Khan	1,218	806	870	957	1,323	1,210	693	548	611	618	927	995	10,519
	Total for the Province.	52,366	33,926	33,362	38,231	44,340	47,834	39,795	33,347	47,209	55,416	56,189	55,575	548,070
	Ratio of deaths per 1,000 in each month.	2.71	2.01	1.98	1.93	2.29	2.47	2.06	1.72	2.44	2.89	2.90	2.87	28.34

ANNUAL FORM No. IV.

DEATHS REGISTERED ACCORDING TO SPECIFIED AGE PERIODS FROM
DIFFERENT DISEASES IN THE DISTRICTS OF THE PUNJAB
DURING THE YEAR 1919.

DEATHS REGISTERED ACCORDING TO SPECIFIED AGE PERIODS FROM DIFFERENT

DEATHS REGISTERED ACCORDING TO SPECIFIED AGE PERIODS FROM DIFFERENT

1		2		3		4		5		6		7		8		
No.		Divisions.		Districts.		DISEASES.		UNDER ONE YEAR.		ONE YEAR AND UNDER 5 YEARS.		5 YEARS AND UNDER 10 YEARS.		10 YEARS AND UNDER 15 YEARS.		
1		2		3		4		5		6		7		8		
1		2		3		4		5		6		7		8		
1	AMBALA.	HISSAR.	Cholera	...	...	...	...	...	...	...	...	...	...	...	...
			Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...
			Plague	...	...	...	...	...	...	...	...	...	...	...	...	...
			Fevers	...	...	...	...	...	...	...	...	...	...	...	...	...
			Dysentery and Diarrhoea	...	...	...	...	...	...	...	...	...	...	...	...	...
			Respiratory diseases	...	...	...	...	...	...	...	...	...	...	...	...	...
			Injuries	...	...	...	...	...	...	...	...	...	...	...	...	...
			All other causes	...	...	...	...	...	...	...	...	...	...	...	...	...
			Total	...	...	...	...	...	...	...	...	...	...	...	...	...
			2	AMBALA.	ROHTAK.	Cholera
Small-pox	...	...				...	...	...	...	...	...	...	...	...	...	...
Plague	...	...				...	...	...	...	...	...	...	...	...	...	...
Fevers	...	...				...	...	...	...	...	...	...	...	...	...	...
Dysentery and Diarrhoea	...	...				...	...	...	...	...	...	...	...	...	...	...
Respiratory diseases	...	...				...	...	...	...	...	...	...	...	...	...	...
Injuries	...	...				...	...	...	...	...	...	...	...	...	...	...
All other causes	...	...				...	...	...	...	...	...	...	...	...	...	...
Total	...	...				...	...	...	...	...	...	...	...	...	...	...
3	AMBALA.	GURGAON.				Cholera
			Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...
			Plague	...	...	...	...	...	...	...	...	...	...	...	...	...
			Fevers	...	...	...	...	...	...	...	...	...	...	...	...	...
			Dysentery and Diarrhoea	...	...	...	...	...	...	...	...	...	...	...	...	...
			Respiratory diseases	...	...	...	...	...	...	...	...	...	...	...	...	...
			Injuries	...	...	...	...	...	...	...	...	...	...	...	...	...
			All other causes	...	...	...	...	...	...	...	...	...	...	...	...	...
			Total	...	...	...	...	...	...	...	...	...	...	...	...	...
			4	AMBALA.	KARNAL.	Cholera
Small-pox	...	...				...	...	...	...	...	...	...	...	...	...	...
Plague	...	...				...	...	...	...	...	...	...	...	...	...	...
Fevers	...	...				...	...	...	...	...	...	...	...	...	...	...
Dysentery and Diarrhoea	...	...				...	...	...	...	...	...	...	...	...	...	...
Respiratory diseases	...	...				...	...	...	...	...	...	...	...	...	...	...
Injuries	...	...				...	...	...	...	...	...	...	...	...	...	...
All other causes	...	...				...	...	...	...	...	...	...	...	...	...	...
Total	...	...				...	...	...	...	...	...	...	...	...	...	...
5	AMBALA.	AMBALA.				Cholera
			Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...
			Plague	...	...	...	...	...	...	...	...	...	...	...	...	...
			Fevers	...	...	...	...	...	...	...	...	...	...	...	...	...
			Dysentery and Diarrhoea	...	...	...	...	...	...	...	...	...	...	...	...	...
			Respiratory diseases	...	...	...	...	...	...	...	...	...	...	...	...	...
			Injuries	...	...	...	...	...	...	...	...	...	...	...	...	...
			All other causes	...	...	...	...	...	...	...	...	...	...	...	...	...
			Total	...	...	...	...	...	...	...	...	...	...	...	...	...
			6	AMBALA.	SIMLA.	Cholera
Small-pox	...	...				...	...	...	...	...	...	...	...	...	...	...
Plague	...	...				...	...	...	...	...	...	...	...	...	...	...
Fevers	...	...				...	...	...	...	...	...	...	...	...	...	...
Dysentery and Diarrhoea	...	...				...	...	...	...	...	...	...	...	...	...	...
Respiratory diseases	...	...				...	...	...	...	...	...	...	...	...	...	...
Injuries	...	...				...	...	...	...	...	...	...	...	...	...	...
All other causes	...	...				...	...	...	...	...	...	...	...	...	...	...
Total	...	...				...	...	...	...	...	...	...	...	...	...	...

No. IV.

DISEASES IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1919.

9		10		11		12		13		14		15		16
15 YEARS AND UNDER 20 YEARS.		20 YEARS AND UNDER 30 YEARS.		30 YEARS AND UNDER 40 YEARS.		40 YEARS AND UNDER 50 YEARS.		50 YEARS AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.		TOTAL.		No.
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
4	3	6	5	3	2	1	17	12	1
28	22	6	7	4	2	...	...	...	...	...	...	561	502
36	30	78	60	45	51	30	33	20	18	15	8	251	211	
93	112	890	740	493	588	551	489	580	413	1,364	1,184	8,310	7,435	
11	10	18	24	19	23	26	29	35	33	42	40	163	176	
18	15	22	19	70	52	83	56	91	68	97	80	418	319	
6	5	16	10	20	12	22	16	34	17	30	20	135	89	
58	52	55	51	36	46	18	16	...	...	...	...	2,183	1,852
254	249	1,091	916	690	776	734	643	760	549	1,548	1,332	12,033	10,606	
9	5	7	9	5	6	7	4	3	...	3	1	44	31	2
2	...	...	...	2	...	...	...	...	...	...	...	36	27
170	182	314	347	263	290	217	211	174	187	60	53	1,555	1,678	
246	256	494	507	410	490	558	436	570	415	1,583	1,038	7,746	6,987	
14	10	8	14	7	9	13	7	23	15	37	33	173	144	
5	16	38	42	30	33	38	55	131	95	187	185	541	512	
14	23	17	30	26	32	16	27	10	11	9	15	136	182	
26	21	30	32	18	29	27	20	24	18	32	26	2,848	2,351	
436	513	908	981	761	892	906	760	938	741	1,911	1,351	13,074	11,912	
15	10	46	22	25	31	22	23	26	18	43	19	285	220	3
1	...	...	5	1	...	...	...	...	...	...	...	48	50
8	11	12	9	7	4	13	...	...	...	...	...	44	24
166	110	656	647	468	521	601	517	767	657	2,017	1,502	9,504	8,905	
29	34	27	23	26	29	25	30	37	22	36	33	262	248	
47	38	34	46	46	57	48	33	55	63	85	96	513	513	
2	1	9	27	25	54	32	45	17	8	2	5	87	140	
176	109	152	172	194	145	165	102	121	99	163	197	3,904	3,666	
444	313	936	951	792	845	906	750	1,017	872	2,346	1,852	14,647	13,766	
48	32	60	45	40	30	16	15	...	5	211	161	4
16	8	9	7	3	...	...	...	...	...	...	...	187	170
5	2	2	2	1	1	...	1	...	...	...	...	9	6
249	242	973	844	804	934	985	758	969	744	1,860	1,412	10,508	9,442	
8	9	10	10	14	15	12	11	16	9	29	12	126	107	
49	47	45	38	35	34	54	53	95	49	104	98	590	510	
16	11	26	32	38	18	15	24	10	11	5	9	125	134	
31	62	28	19	39	55	41	89	45	90	45	94	3,082	2,771	
423	413	1,156	1,037	974	1,037	1,123	951	1,135	908	2,043	1,625	14,838	13,301	
5	1	4	...	6	2	3	4	1	1	2	1	34	25	5
10	6	6	13	11	11	7	6	5	5	5	4	146	136	
7	4	4	3	4	1	3	2	...	2	...	2	29	32	
173	184	381	349	364	304	698	472	594	395	1,169	918	7,215	6,336	
17	8	24	17	11	10	20	12	27	15	20	12	224	144	
59	62	131	125	104	112	113	114	129	112	217	125	1,594	1,302	
17	11	15	5	1	5	14	6	7	2	3	2	122	51	
66	65	117	106	101	89	116	104	127	116	157	167	1,483	1,369	
354	341	682	618	618	534	1,034	720	890	648	1,573	1,231	10,867	9,395	
...	6
...	1	...	1	3	...	1	1	1	1	1	...	9	6	
...	
14	5	44	37	47	21	16	10	26	17	48	35	323	215	
4	2	6	5	6	5	5	5	4	3	8	4	53	41	
2	1	6	4	6	3	8	4	11	5	10	5	60	50	
...	1	1	1	4	
8	4	21	9	17	4	25	10	17	10	25	9	152	92	
28	14	77	56	79	37	55	30	59	36	92	53	598	408	7
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DEATHS REGISTERED ACCORDING TO SPECIFIED AGE PERIODS FROM DIFFERENT

1	2	3	4	5		6		7		8	
No.	Divisions.	District.	DISEASES.	UNDER ONE YEAR.		ONE YEAR AND UNDER 5 YEARS.		5 YEARS AND UNDER 10 YEARS.		10 YEARS AND UNDER 15 YEARS.	
				Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12
7		KANGRA.	Cholera ...	...	...	...	...	...	...	...	...
			Small-pox ...	1	9	5	2	3	1	5	1
			Plague ...	...	...	...	...	...	...	...	...
			Fevers ...	1,926	1,455	600	760	219	260	136	149
			Dysentery and Diarrhoea ...	35	40	30	23	16	18	45	30
			Respiratory diseases ...	612	645	265	195	120	89	112	92
			Injuries ...	10	9	18	7	10	8	30	8
			All other causes ...	629	712	240	180	99	90	71	81
			Total ...	3,213	2,870	1,158	1,166	467	466	399	36
8		HOSHIAHPUR.	Cholera ...	...	...	...	1	...	2	...	...
			Small-pox ...	267	235	346	294	66	52	33	44
			Plague ...	1	1	5	3	3	5	5	7
			Fevers ...	1,655	1,677	1,860	1,982	388	426	274	268
			Dysentery and Diarrhoea ...	13	12	3	...	1	...	1	...
			Respiratory diseases ...	548	372	141	108	27	13	29	26
			Injuries ...	1	4	16	18	17	6	12	11
			All other causes ...	1,367	1,163	135	97	25	15	22	13
			Total ...	3,852	3,464	2,506	2,503	527	519	376	369
9	JULLUNDUR.	JULLUNDUR.	Cholera ...	1	...	9	6	12	7	11	3
			Small-pox ...	45	44	65	59	30	35	12	10
			Plague ...	1	1	5	4	11	12	9	12
			Fevers ...	1,275	1,375	1,544	1,638	376	352	166	186
			Dysentery and Diarrhoea ...	48	27	30	34	3	3	2	2
			Respiratory diseases ...	461	353	105	75	9	8	7	12
			Injuries ...	4	5	28	19	40	15	16	5
			All other causes ...	1,522	1,620	50	70	10	8	6	2
			Total ...	3,357	3,425	1,836	1,905	491	440	229	232
10		LUDHIANA.	Cholera ...	...	...	...	...	1	1	...	1
			Small-pox ...	83	64	97	106	39	58	26	21
			Plague ...	1	...	...	...	3	6	1	4
			Fevers ...	499	604	498	456	299	285	309	291
			Dysentery and Diarrhoea ...	17	8	9	2	3	1	4	2
			Respiratory diseases ...	98	52	82	70	56	44	32	26
			Injuries ...	3	1	2	2	6	11	7	3
			All other causes ...	1,519	1,585	185	143	79	59	54	37
			Total ...	2,220	2,314	873	779	483	465	433	385
11		FEROZEPUR.	Cholera ...	...	...	22	14	19	15	17	12
			Small-pox ...	216	164	270	208	222	241	76	61
			Plague ...	23	25	65	71	61	68	55	64
			Fevers ...	2,550	2,264	1,310	1,298	452	395	260	248
			Dysentery and Diarrhoea ...	9	11	14	12	13	9	13	8
			Respiratory diseases ...	48	45	101	85	78	71	44	36
			Injuries ...	...	...	33	22	19	8	5	7
			All other causes ...	1,135	1,032	874	737	160	122	94	82
			Total ...	3,981	3,541	2,689	2,447	1,024	929	564	518
12	LAHORE.	LAHORE.	Cholera ...	...	...	6	2	6	12	24	25
			Small-pox ...	179	147	267	240	130	123	40	30
			Plague ...	31	22	83	93	84	86	94	105
			Fevers ...	2,173	1,795	1,659	1,727	721	585	351	406
			Dysentery and Diarrhoea ...	52	30	62	33	22	19	17	6
			Respiratory diseases ...	188	143	184	103	55	34	39	37
			Injuries ...	8	6	32	26	32	19	36	20
			All other causes ...	1,834	1,673	908	675	162	177	34	38
			Total ...	4,465	3,821	3,201	2,899	1,212	1,060	635	667

No. IV—CONTINUED.

DISEASES IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1919.

9		10		11		12		13		14		15		16
15 YEARS AND UNDER 20 YEARS.		20 YEARS AND UNDER 30 YEARS.		30 YEARS AND UNDER 40 YEARS.		40 YEARS AND UNDER 50 YEARS.		50 YEARS AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.		TOTAL.		
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	No.
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	...	3	2	4	...	2	...	2	...	...	...	12	2	
6	1	9	2	10	2	12	2	15	4	20	12	86	36	
...	
155	340	816	1,337	690	930	730	676	716	454	2,284	1,735	8,272	8,096	7
39	37	10	13	9	20	10	15	7	25	22	20	223	240	
115	98	63	75	214	178	140	85	182	130	56	66	1,879	1,653	
30	7	15	8	14	9	14	7	15	9	37	19	193	91	
89	101	72	104	132	140	99	75	155	99	74	270	1,660	1,852	
435	584	938	1,541	1,073	1,279	1,007	860	1,092	721	2,493	2,122	12,325	11,970	
1	...	6	1	1	1	...	2	...	...	...	1	8	8	
39	47	98	91	69	77	56	60	35	40	17	28	1,026	968	
7	2	9	5	8	2	2	1	3	4	1	1	44	31	
176	209	475	710	476	520	544	454	601	478	2,342	1,735	8,791	8,459	8
...	...	...	1	1	...	1	1	2	1	2	2	24	17	
29	20	78	84	67	74	75	55	91	39	246	123	1,331	914	
7	4	11	9	21	7	16	9	14	9	19	6	134	83	
12	11	37	40	34	42	34	33	38	21	118	70	1,822	1,505	
271	293	714	941	677	723	728	615	784	592	2,745	1,966	13,180	11,985	
6	4	8	10	11	7	...	4	11	6	6	5	75	52	
5	15	21	19	7	9	8	6	3	1	2	3	193	201	
4	8	20	6	12	1	9	1	6	7	13	8	90	60	
150	145	325	401	325	357	370	303	496	307	1,823	1,484	6,850	6,548	9
1	1	9	11	8	12	14	5	7	4	41	17	163	116	
9	14	34	37	25	21	28	14	45	19	156	89	879	642	
10	5	16	10	9	6	12	5	9	5	23	27	167	102	
7	5	11	18	14	17	20	11	27	4	41	21	1,708	1,776	
193	197	444	512	411	430	461	349	604	353	2,105	1,654	10,130	9,497	
1	...	3	1	...	1	...	1	1	...	...	...	6	5	
14	21	17	25	20	16	12	9	5	4	3	1	316	325	
5	7	2	3	8	4	3	5	2	3	2	4	27	36	
396	318	405	362	421	375	359	351	249	296	312	307	3,747	3,645	10
2	5	3	7	4	6	9	12	25	16	51	35	127	94	
41	17	20	15	39	48	46	51	62	54	69	38	545	415	
10	7	16	8	15	12	9	6	13	4	8	4	89	58	
41	57	50	43	27	33	53	55	48	65	51	47	2,107	2,124	
510	432	516	464	534	495	491	490	405	442	496	436	6,964	6,702	
16	13	27	15	26	16	15	12	11	6	8	4	161	107	
41	48	40	34	27	23	14	19	...	3	...	...	906	801	
52	48	76	92	65	63	62	55	51	42	64	60	574	588	
179	137	512	479	448	452	506	352	490	324	1,286	979	7,993	6,928	11
10	14	15	13	19	7	9	10	13	11	17	12	152	107	
42	31	69	48	83	54	87	41	76	51	87	53	715	518	
15	5	25	11	26	9	23	5	11	5	13	11	170	83	
81	69	183	155	184	175	169	135	170	140	193	141	3,243	2,788	
436	365	917	847	878	799	885	629	822	582	1,668	1,263	13,894	11,920	
60	30	85	80	45	35	27	26	6	12	...	...	259	222	
20	15	19	17	4	5	3	3	...	...	...	...	662	585	
95	105	119	112	94	88	85	91	61	59	57	57	793	818	
153	156	589	518	541	490	479	277	490	333	1,500	1,137	8,656	7,424	12
12	19	16	11	25	14	24	14	23	12	45	35	298	191	
45	46	148	118	87	98	75	59	61	65	192	142	1,014	850	
25	14	26	6	33	13	43	12	25	11	14	5	274	132	
33	53	48	44	86	60	58	63	94	47	229	139	3,486	2,969	
443	438	1,040	906	915	803	791	545	760	539	2,037	1,513	15,502	13,191	

DEATHS REGISTERED ACCORDING TO SPECIFIED AGE PERIODS FROM DIFFERENT

1	2	3	4	5		6		7		8	
No.	Divisions.	Districts.	DISEASES.	UNDER ONE YEAR.		ONE YEAR AND UNDER 5 YEARS.		5 YEARS AND UNDER 10 YEARS.		10 YEARS AND UNDER 15 YEARS.	
1	2	3	4	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12
13	LAHORE—CONCLUDED.	AMRITSAR.	Cholera ... ..	...	...	10	9	21	18	51	29
			Small-pox	86	64	115	84	56	41	42	25
			Plague ... ..	...	...	...	...	...	1	...	2
			Fevers	2,240	2,192	1,899	1,861	422	278	172	122
			Dysentery and Diarrhoea	39	21	19	15	14	11	10	9
			Respiratory diseases	400	328	140	111	120	110	43	36
			Injuries	69	13	53	8	43	12	27	9
			All other causes	935	871	392	326	60	62	21	45
			Total	3,778	3,459	2,628	2,514	736	533	366	277
			Cholera ... ..	...	...	...	...	...	...	...	...
			Small-pox	87	70	58	53	60	59	15	18
			Plague ... ..	...	...	...	...	4	3	8	4
			Fevers	2,710	2,311	1,611	1,618	193	185	106	114
14	LAHORE—CONCLUDED.	GURDASPUR.	Dysentery and Diarrhoea	18	7	20	8	29	29	38	19
			Respiratory diseases	397	373	318	281	158	174	117	101
			Injuries ... ..	...	...	...	...	5	2	9	3
			All other causes	249	199	210	159	147	104	51	111
			Total	3,461	2,960	2,217	2,119	594	556	344	370
			Cholera ... ..	...	...	9	1	11	3	3	4
			Small-pox	87	86	153	128	47	52	26	30
			Plague	3	2	11	16	21	19	27	20
			Fevers	1,871	1,604	1,833	2,166	378	347	225	165
			Dysentery and Diarrhoea	105	71	63	37	27	24	23	13
			Respiratory diseases	622	545	239	152	147	131	98	84
			Injuries	2	1	28	28	34	22	16	10
			All other causes	919	881	428	241	136	128	63	159
15	LAHORE—CONCLUDED.	SIALKOT.	Total	3,609	3,190	2,764	2,769	801	726	480	485
			Cholera	15	20	25	13	70	52	33	15
			Small-pox	101	89	44	55	40	22	10	11
			Plague	5	4	20	15	17	18	18	24
			Fevers	2,725	2,274	1,435	1,172	943	873	935	826
			Dysentery and Diarrhoea	15	13	13	12	8	3	14	8
			Respiratory diseases	35	27	15	20	25	14	13	9
			Injuries	13	7	18	10	20	6	38	15
			All other causes	761	543	267	237	160	87	100	95
			Total	3,670	2,977	1,837	1,534	1,283	1,075	1,161	1,002
			Cholera ... ..	...	...	...	...	...	...	...	...
			Small-pox	15	20	25	13	70	52	33	15
			Plague	101	89	44	55	40	22	10	11
16	LAHORE—CONCLUDED.	GUJRANWALA.	Fevers	5	4	20	15	17	18	18	24
			Dysentery and Diarrhoea	2,725	2,274	1,435	1,172	943	873	935	826
			Respiratory diseases	15	13	13	12	8	3	14	8
			Respiratory diseases	35	27	15	20	25	14	13	9
			Injuries	13	7	18	10	20	6	38	15
			All other causes	761	543	267	237	160	87	100	95
			Total	3,670	2,977	1,837	1,534	1,283	1,075	1,161	1,002
			Cholera ... ..	...	...	...	...	...	...	...	...
			Small-pox	15	20	25	13	70	52	33	15
			Plague	101	89	44	55	40	22	10	11
			Fevers	5	4	20	15	17	18	18	24
			Dysentery and Diarrhoea	2,725	2,274	1,435	1,172	943	873	935	826
			Respiratory diseases	15	13	13	12	8	3	14	8
17	RAWALPINDI.	GUJRAT.	Respiratory diseases	35	27	15	20	25	14	13	9
			Injuries	13	7	18	10	20	6	38	15
			All other causes	761	543	267	237	160	87	100	95
			Total	3,670	2,977	1,837	1,534	1,283	1,075	1,161	1,002
			Cholera ... ..	...	...	...	...	...	...	...	...
			Small-pox	7	11	18	14	17	15	22	13
			Plague	84	55	40	56	53	50	12	8
			Fevers ... ..	...	...	1	...	3	1	2	2
			Dysentery and Diarrhoea	1,723	1,473	901	948	456	406	437	429
			Respiratory diseases	1	1	5	2	14	9	22	12
			Respiratory diseases	266	296	130	114	60	44	25	17
			Injuries	2	2	14	4	19	9	18	7
			All other causes	268	252	203	150	146	144	114	113
18	RAWALPINDI.	SHAHPUR.	Total	2,351	2,090	1,310	1,288	768	678	652	601
			Cholera ... ..	...	...	...	...	...	...	...	...
			Small-pox	4	2	26	15	15	11	12	11
			Plague	61	50	72	59	38	34	25	29
			Fevers ... ..	...	...	2	2	2	6	3	8
			Dysentery and Diarrhoea	735	589	969	943	392	328	203	168
			Respiratory diseases	2	2	5	2	8	2	11	6
			Respiratory diseases	13	10	32	15	32	22	44	28
			Injuries	2	3	25	24	39	30	26	15
			All other causes	1,501	1,197	22	30	21	26	15	15
			Total	2,318	1,853	1,151	1,090	547	459	339	280

No. IV—CONTINUED.

DISEASES IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1919.

9		10		11		12		13		14		15		16
15 YEARS AND UNDER 20 YEARS.		20 YEARS AND UNDER 30 YEARS.		30 YEARS AND UNDER 40 YEARS.		40 YEARS AND UNDER 50 YEARS.		50 YEARS AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.		TOTAL.		
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	No.
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
83	21	50	42	62	17	29	21	11	16	13	6	280	179	13
15	14	13	5	7	6	...	...	...	...	...	...	334	239
1	1	2		2	2	2	1	1	...	...	...	8	7
185	205	407	593	455	412	481	281	592	253	1,733	1,150	8,592	7,447	
20	10	17	11	12	17	15	17	38	15	13	7	197	133	
92	52	177	117	119	122	151	109	96	139	201	185	1,548	1,309	
23	7	105	9	45	7	20	2	23	3	17	5	430	75	
53	53	73	78	42	30	33	23	81	20	133	121	1,773	1,629	
427	363	844	855	744	613	731	454	798	446	2,116	1,474	13,162	11,018	
5	3	7	5	4	3	5	4	7	5	4	3	32	23	14
18	16	12	14	12	16	18	15	8	8	...	...	288	264
6	4	6	12	10	11	10	6	4	2	2	2	50	44	
99	126	178	190	206	222	138	93	197	108	914	550	6,352	5,517	
38	28	39	29	35	25	38	27	25	19	19	10	299	201	
99	86	281	293	273	197	356	182	378	223	540	485	2,915	2,395	
...	8	30	18	28	20	26	10	18	8	24	8	140	77	
38	29	135	115	141	140	116	105	103	111	395	218	1,585	1,291	
303	300	688	676	709	634	707	442	740	479	1,898	1,276	11,661	9,812	
7	3	4	2	5	5	2	2	4	1	2	1	47	22	15
18	21	30	22	14	13	9	5	8	1	2	2	394	360	
16	16	10	20	13	8	8	7	5	11	6	11	120	130	
163	210	395	468	395	385	517	385	583	349	1,915	1,260	8,275	7,339	
18	15	1	12	14	12	16	8	13	9	25	24	319	225	
99	84	125	102	109	93	66	52	55	57	122	101	1,682	1,401	
6	4	16	8	17	6	13	5	16	6	27	9	175	99	
52	35	104	74	105	85	45	23	45	37	230	205	2,127	1,868	
379	388	700	708	672	607	676	487	729	471	2,329	1,613	13,139	11,444	
30	20	125	75	80	55	65	61	25	9	38	32	506	352	16
5	6	3	5	2	1	6	2	2	3	1	...	214	194	
23	30	35	40	58	35	30	13	18	24	15	12	244	215	
380	777	1,002	773	900	853	913	775	922	653	1,143	798	11,798	9,774	
13	4	...	...	4	2	8	3	5	4	3	5	83	54
48	83	62	43	83	38	28	15	23	24	18	17	350	239	
25	16	46	14	40	12	50	20	23	10	22	9	297	119	
90	75	137	103	76	74	77	60	84	97	84	111	1,836	1,482	
1,119	961	1,412	1,053	1,243	1,070	1,177	949	1,102	824	1,324	984	15,328	12,429	
10	20	14	9	9	12	17	12	5	12	12	19	129	137	17
11	8	12	7	5	6	7	3	2	...	...	1	228	194
1	...	4	...	5	1	2	4	1	1	1	...	20	9	
401	441	498	576	638	647	676	683	742	667	1,364	1,084	7,836	7,354	
22	14	19	15	10	9	15	15	28	11	28	15	164	103	
36	25	51	14	50	30	46	40	101	46	114	43	879	669	
15	11	14	8	27	13	18	9	9	4	25	15	161	77	
127	75	148	97	121	96	122	117	150	130	161	125	1,560	1,299	
623	594	760	721	865	814	903	883	1,038	871	1,705	1,302	10,975	9,842	
10	2	16	15	18	13	13	16	9	3	15	4	138	91	18
16	9	4	3	2	1	1	...	...	...	...	...	219	185
2	2	4	4	2	6	3	4	2	2	5	3	23	37	
133	181	339	379	365	488	420	318	454	361	1,329	936	5,389	4,641	
18	15	32	16	24	16	16	12	16	11	12	10	144	22	
56	28	73	49	76	37	49	29	39	23	21	18	435	259	
20	11	18	10	14	9	12	8	5	5	2	1	163	116	
7	7	8	6	3	2	1	2	1	2	1,579	1,287	
202	205	494	482	504	572	515	389	526	406	1,384	572	8,040	6,708	

ANNUAL FORM

DEATHS REGISTERED ACCORDING TO SPECIFIED AGE PERIODS FROM DIFFERENT

1	2	3	4	5		6		7		8	
No.	Divisions.	Districts.	DISEASES.	UNDER ONE YEAR.		ONE YEAR AND UNDER 5 YEARS.		5 YEARS AND UNDER 10 YEARS.		10 YEARS AND UNDER 15 YEARS.	
1	2	3	4	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
19	RAWALPINDI—CONCLUDED.	JHELUM.	Cholera ... ..	...	1	6	8	8	3	4	2
			Small-pox... ..	81	83	163	165	90	106	31	22
			Plague	1	1	6	4	14	26	11	34
			Fevers	582	466	799	878	315	293	180	149
			Dysentery and Diarrhoea	9	7	13	10	9	9	3	2
			Respiratory diseases	12	10	18	12	10	7	18	11
			Injuries ... ..	...	1	12	14	17	9	6	9
			All other causes	889	732	135	106	19	19	13	8
		Total	1,574	1,301	1,152	1,197	482	472	266	237	
20		RAWALPINDI.	Cholera ... ..	...	3	32	21	42	24	43	33
			Small-pox... ..	22	19	34	33	19	19	14	6
			Plague ... ..	...	1	10	5	27	18	18	26
			Fevers	594	553	731	818	245	294	160	146
			Dysentery and Diarrhoea	622	565	108	107	11	11	7	8
			Respiratory diseases	54	30	41	31	23	25	29	30
			Injuries	4	1	16	12	14	20	22	10
	All other causes		553	499	102	88	18	18	8	8	
	Total	1,849	1,671	1,074	1,118	399	429	301	267		
21	ATTOCK.	Cholera	40	26	118	75	152	115	99	93	
		Small-pox... ..	44	21	60	53	30	20	13	11	
		Plague	2	4	32	40	45	42	47	42	
		Fevers	583	545	938	896	347	322	222	155	
		Dysentery and Diarrhoea	4	3	5	3	2	...	...	...
		Respiratory diseases	6	6	21	17	12	10	6	14	
		Injuries	2	1	7	8	18	11	9	8	
		All other causes	799	683	94	62	9	11	5	11	
	Total	1,480	1,289	1,275	1,154	615	531	401	334		
22	MIANWALI.	Cholera	7	1	26	17	26	25	17	15	
		Small-pox... ..	2	1	2	1	2	1	...	1	
		Plague ... ..	...	...	...	...	...	...	...	...
		Fevers	877	727	516	482	168	202	105	110	
		Dysentery and Diarrhoea	23	14	8	12	7	4	5	1	
		Respiratory diseases	9	9	7	9	2	4	8	4	
		Injuries	3	2	7	7	9	4	7	7	
		All other causes	650	496	34	32	12	14	8	1	
	Total	1,571	1,250	600	560	226	254	150	139		
23	MONTGOMERY.	Cholera ... ..	...	...	...	...	...	...	...	...
		Small-pox... ..	178	143	247	128	164	240	31	34	
		Plague ... ..	...	...	6	8	37	42	68	63	
		Fevers	1,652	1,423	853	846	389	235	248	332	
		Dysentery and Diarrhoea	1	1	8	2	2	2	1	1	
		Respiratory diseases	4	2	3	1	6	4	6	5	
		Injuries	4	8	12	4	18	10	17	6	
		All other causes	445	270	98	103	91	80	116	57	
	Total	2,284	1,847	1,227	1,092	707	613	487	498		
24	MULTAN.	LYALLPUR.	Cholera	6	13	33	36	26	49	49	41
			Small-pox... ..	144	125	227	181	124	127	69	50
			Plague	1	...	5	6	23	15	18	37
			Fevers	3,024	2,738	1,922	1,649	386	434	168	169
			Dysentery and Diarrhoea	3	5	5	11	12	6	1	11
			Respiratory diseases	3	4	22	9	15	16	15	29
			Injuries... ..	16	21	37	20	42	16	26	32
			All other causes	976	853	539	625	343	239	173	99
	Total	4,178	3,749	2,790	2,537	971	902	519	463		

No. IV—CONTINUED.

DISEASES IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1919.

9		10		11		12		13		14		15		16
15 YEARS AND UNDER 20 YEARS.		20 YEARS AND UNDER 30 YEARS		30 YEARS AND UNDER 40 YEARS.		40 YEARS AND UNDER 50 YEARS.		50 YEARS AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.		TOTAL.		
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	No.
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	4	9	10	8	10	4	5	4	6	8	3	52	52	19
8	14	17	17	17	23	9	7	2	2	1	8	419	442	
17	13	33	36	39	42	23	29	19	14	32	27	194	226	
150	104	279	287	345	351	379	398	410	275	1,203	861	4,644	4,003	
2	...	5	8	10	8	11	8	9	9	30	12	101	73	
17	23	77	61	103	74	91	53	61	44	176	134	532	429	
9	2	14	15	11	8	12	6	10	1	13	4	104	69	
11	13	19	38	17	43	24	20	18	13	37	8	1,182	1,008	
215	178	453	472	549	562	552	466	533	364	1,502	1,052	7,278	6,301	
33	26	40	53	52	45	32	24	25	21	31	21	330	271	20
7	12	9	11	8	2	1	...	...	...	...	...	114	105
26	13	29	17	28	11	15	24	11	10	16	15	180	140	
112	117	330	377	346	344	317	281	331	276	999	735	4,165	3,991	
2	4	9	8	17	10	8	10	14	5	30	11	88	739	
44	38	105	113	171	121	102	72	91	47	100	93	760	600	
7	6	23	16	28	18	18	10	22	6	25	8	179	107	
4	22	25	42	19	44	22	15	20	14	28	8	799	758	
235	238	570	637	669	645	515	438	514	379	1,239	891	7,355	6,711	
123	86	145	108	138	123	102	98	120	70	125	61	1,162	830	21
2	5	2	1	...	2	4	1	2	...	1	1	153	115	
19	45	34	75	53	97	35	67	26	43	42	45	338	500	
157	148	338	443	463	483	451	378	450	316	980	780	4,929	4,496	
...	1	4	2	2	4	2	3	1	1	7	5	27	22	
12	24	50	39	54	43	40	24	28	27	83	60	312	264	
8	2	20	8	24	6	14	3	10	3	11	3	123	53	
7	8	8	23	20	30	12	14	14	10	17	15	955	867	
328	319	601	699	757	733	630	588	651	500	1,266	970	8,034	7,177	
15	9	16	19	19	26	20	17	16	13	11	9	173	151	22
...	1	4	...	...	...	...	...	...	...	...	...	10	5
...	...	2	1	...	...	...	...	1	...	...	...	3	1
89	84	208	341	320	341	357	344	380	297	653	587	3,718	3,465	
3	3	6	7	4	7	6	4	8	8	17	13	87	73	
12	5	19	12	26	22	15	10	24	15	37	17	159	107	
5	4	13	5	13	3	7	2	3	4	5	3	72	41	
8	9	14	32	17	29	11	11	17	5	27	14	793	643	
132	115	372	417	399	428	426	383	449	242	755	593	5,080	4,486	
1	...	1	...	1	1	3	1	23
29	39	28	26	22	6	4	2	2	4	3	...	708	622	
51	83	87	82	91	70	41	59	15	63	6	31	42	492	
225	169	412	334	333	413	428	411	446	273	1,070	733	6,656	5,219	
3	2	1	1	1	4	2	3	1	2	2	1	22	19	
5	2	12	1	5	4	15	7	3	8	2	6	61	40	
14	16	27	9	18	10	16	6	4	8	14	8	144	85	
91	44	50	91	94	62	83	66	87	73	56	71	1,311	917	
419	355	618	594	565	569	589	546	558	431	1,153	850	8,607	7,395	
84	73	161	92	173	115	156	126	42	42	36	27	766	614	24
32	27	14	18	15	12	4	1	...	...	...	...	629	541
31	22	28	33	17	36	26	38	16	14	8	8	173	209	
80	64	255	281	173	268	125	148	203	226	1,160	981	7,501	6,948	
16	13	10	14	25	17	49	18	49	39	42	24	194	158	
25	23	32	30	35	30	53	32	91	45	139	73	430	234	
29	16	23	8	12	6	9	3	4	3	3	...	207	125	
75	68	87	101	75	55	62	43	81	39	37	18	2,448	2,140	
372	309	610	577	536	539	475	409	477	408	1,425	1,131	12,348	11,029	

DEATHS REGISTERED ACCORDING TO SPECIFIED AGE PERIODS FROM DIFFERENT

1	2	3	4	5		6		7		8	
No.	Divisions.	D'stricts.	DISEASES.	UNDER ONE YEAR.		ONE YEAR AND UNDER 5 YEARS.		5 YEARS AND UNDER 10 YEARS.		10 YEARS AND UNDER 15 YEARS.	
				Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12
25	MULTAN--CONCLUDED.	JHANG.	Cholera ...	7	5	5	8	12	1	2	4
			Small-pox ...	34	41	30	27	19	21	17	11
			Plague	2	2	2	1	2	1
			Fevers ...	912	912	605	541	265	231	147	168
			Dysentery and Diarrhoea ...	38	31	22	25	9	3	3	6
			Respiratory diseases...	17	12	11	4	4	6
			Injuries ...	13	11	12	22	20	10	14	8
			All other causes ...	1,227	927	118	67	47	55	55	40
			Total ...	2,248	1,939	805	696	374	322	244	244
			26	MULTAN.	Cholera	2	1	3	3	2	2
Small-pox ...	12	16			18	21	15	13	10	9	
Plague ...	...	...			8	10	14	13	16	15
Fevers ...	2,633	2,156			671	717	415	464	364	397	
Dysentery and Diarrhoea ...	48	39			20	20	14	8	9	8	
Respiratory diseases ...	59	52			31	29	19	17	18	27	
Injuries ...	15	7			20	18	23	16	17	14	
All other causes ...	617	551			360	340	73	63	83	68	
Total ...	3,384	2,821			1,130	1,136	576	597	519	540	
27	MUZAFFARGARH.	Cholera	1
		Small-pox ...	1	1	3	...	3	1	...	...
		Plague ...	...	...	...	...	...	...	...	...
		Fevers ...	1,563	1,082	735	668	329	292	286	235	
		Dysentery and Diarrhoea ...	17	15	5	3	1	...	1	1	
		Respiratory diseases ...	9	5	6	2	1	...	4	5	
		Injuries ...	...	3	25	24	23	16	15	9
		All other causes ...	475	407	18	18	4	19	6	5	
		Total ...	1,765	1,513	792	716	361	328	312	255	
		28	DERA GHAZI KHAN.	Cholera	3	...	3	2
Small-pox ...	2			...	3	2	3	3	1	...	
Plague ...	...			...	...	...	...	...	...	...
Fevers ...	1,034			739	628	584	333	299	162	151	
Dysentery and Diarrhoea ...	4			2	3	1	...	...	3	2
Respiratory diseases ...	4			3	5	3	5	3	...	...
Injuries ...	15			4	13	6	2	...	5	4	
All other causes ...	139			114	61	36	25	26	37	21	
Total ...	1,198			962	713	632	371	331	211	180	
Total for the Province--											
Cholera ...	96	85	389	277	506	414	464	360			
Small-pox ...	2,080	1,768	2,627	2,258	1,481	1,496	574	510			
Plague ...	112	105	323	352	492	526	509	656			
Fevers ...	44,164	39,324	33,253	33,618	11,188	10,385	6,897	6,512			
Dysentery and Diarrhoea ...	1,226	1,001	551	445	295	240	302	216			
Respiratory diseases ...	4,416	3,741	2,308	1,807	1,201	1,050	875	804			
Injuries ...	207	115	449	331	501	293	421	258			
All other causes ...	25,899	22,653	9,097	7,784	2,590	2,246	1,621	1,578			
Total ...	78,200	68,792	48,997	46,872	18,254	16,650	11,723	10,924			
Population according to Census of 1911...				424,654	404,431	997,515	931,872	1,482,324	1,259,701	1,321,272	931,615
Ratio per 1,000 living for the Province--											
Cholera ...	0.23	0.21	0.39	0.30	0.34	0.33	0.35	0.33			
Small-pox ...	4.90	4.37	2.63	2.42	1.00	1.19	0.43	0.55			
Plague ...	0.26	0.26	0.32	0.38	0.33	0.42	0.43	0.70			
Fevers ...	104.00	97.23	33.33	36.08	7.55	8.24	5.22	7.02			
Dysentery and Diarrhoea ...	2.89	2.48	0.55	0.48	0.20	0.19	0.23	0.23			
Respiratory diseases ...	10.41	9.25	2.31	1.94	0.81	0.83	0.66	0.86			
Injuries ...	0.49	0.28	0.45	0.36	0.34	0.23	0.32	0.23			
All other causes ...	60.99	56.01	9.12	8.35	1.75	1.78	1.23	1.69			
Total ...	184.15	170.10	49.12	50.80	12.31	13.22	8.87	11.78			

NOTE.—The population of Military cantonments by different ages cannot be

NOTE.—As the correct population of the different age periods according to the census of 1911 of the Punjab Province as at present constituted is not prior to the separation of the (new) Delhi Province,—vide Punjab Government

No. IV—CONCLUDED.

DISEASES IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1919.

9		10		11		12		13		14		15		16
15 YEARS AND UNDER 20 YEARS.		20 YEARS AND UNDER 30 YEARS.		30 YEARS AND UNDER 40 YEARS.		40 YEARS AND UNDER 50 YEARS.		50 YEARS AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.		TOTAL.		
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	No.
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
4	4	10	10	10	13	6	6	3	3	5	6	64	60	25
10	8	7	3	1	1	1	1	1	...	...	...	126	113
2	2	1	1	3	1	4	2	3	1	1	1	20	12	
111	83	258	338	273	365	272	329	403	319	967	750	4,213	4,036	
3	2	7	4	12	12	13	8	12	13	37	20	156	124	
8	5	13	13	19	18	17	10	19	15	65	31	168	114	
14	9	16	7	12	2	7	4	5	1	13	8	126	82	
35	71	64	58	68	70	49	77	34	57	94	90	1,791	1,512	
182	184	376	424	398	482	369	437	480	409	1,182	906	6,658	6,053	26
4	2	5	2	5	2	4	1	2	...	1	...	28	13	
6	5	3	1	3	...	...	...	...	...	...	...	67	65
29	27	36	29	31	25	32	16	22	16	15	10	203	161	
381	400	765	711	749	739	743	655	727	573	1,200	988	8,638	7,800	
10	8	10	8	7	8	13	5	15	6	18	5	164	115	
34	70	62	77	44	33	25	18	34	19	73	30	399	372	
27	12	21	13	21	9	21	10	16	9	21	7	202	115	27
82	76	102	80	97	87	85	90	108	92	158	135	1,765	1,562	
573	600	994	921	957	903	923	795	924	715	1,486	1,175	11,466	10,203	
...	
1	1	2	...	2	1	...	...	1	...	...	...	13	4
...	
248	187	712	755	780	797	763	634	699	443	1,253	901	7,068	5,994	
...	...	1	1	3	1	6	2	2	...	5	6	41	29	28
8	7	16	18	17	11	17	4	13	7	31	16	127	75	
8	1	25	9	21	9	18	6	11	4	10	5	153	86	
3	12	11	63	13	53	17	18	16	6	16	7	579	608	
268	208	767	846	836	872	821	664	747	460	1,315	936	7,984	6,798	
5	2	8	6	7	5	5	8	3	10	...	...	34	33
...	2	...	...	...	...	...	...	...	...	...	...	9	7
...	29
134	123	469	479	671	514	529	389	502	300	876	565	5,340	4,143	
...	...	5	4	8	3	7	6	4	3	2	3	36	24	
8	3	9	4	10	5	11	6	5	4	8	6	65	37	
6	3	9	2	3	1	8	2	9	3	10	4	80	29	
16	21	61	52	52	67	50	50	58	41	30	44	529	472	
169	154	561	547	751	595	610	461	582	361	928	622	6,094	4,745	
531	373	866	638	757	584	553	493	381	258	363	223	4,856	3,705	30
360	372	335	354	271	235	177	143	92	71	56	55	8,103	7,262	
618	657	937	989	861	850	655	661	462	523	361	359	5,390	5,678	
5,698	5,583	13,488	14,306	12,904	13,654	13,916	11,547	14,595	10,552	36,356	27,075	192,459	172,586	
315	268	327	289	337	305	384	300	453	321	640	424	4,830	3,809	
1,059	916	1,812	1,637	2,000	1,648	1,969	1,283	2,095	1,493	3,236	2,418	21,011	16,802	
373	222	614	310	584	317	485	268	353	170	405	220	4,392	2,504	
1,328	1,232	1,850	1,886	1,842	1,805	1,634	1,447	1,733	1,456	2,631	2,371	50,225	44,458	31
10,282	9,623	20,319	20,409	19,556	19,398	19,773	16,142	20,114	14,849	44,048	33,145	291,266	256,804	
994,090	726,853	1,885,914	1,581,886	1,446,929	1,197,335	1,065,657	594,099	711,241	544,726	662,471	510,371	10,608,101	8,729,045	
0.53	0.51	0.46	0.40	0.52	0.49	0.52	0.55	0.47	0.47	0.55	0.44	0.46	0.42	
0.36	0.51	0.20	0.22	0.19	0.20	0.17	0.16	0.13	0.13	0.08	0.11	0.76	0.83	
0.62	0.90	0.49	0.62	0.59	0.71	0.61	0.74	0.65	0.96	0.54	0.70	0.51	0.65	
5.73	7.68	7.15	9.04	8.91	11.40	13.06	12.92	20.52	19.37	54.88	53.05	18.14	19.77	
0.32	0.37	0.17	0.18	0.23	0.25	0.36	0.34	0.54	0.59	0.97	0.83	0.46	0.44	32
1.07	1.26	0.98	1.01	1.38	1.38	1.85	1.43	2.94	2.75	4.88	4.74	1.04	1.92	
0.38	0.31	0.33	0.20	0.40	0.26	0.48	0.30	0.50	0.31	0.61	0.43	0.41	0.29	
1.34	1.69	0.98	1.20	1.27	1.51	1.53	1.62	2.44	2.67	3.97	4.65	4.74	5.09	
10.34	13.24	10.77	12.90	13.52	16.20	18.55	18.5	28.28	27.26	66.49	64.94	27.46	29.41	
...	
...	

excluded, as it is not shown separately in the census returns.

available, the ratios shown in columns 5 to 14 are calculated under the orders of the Local Government on the population of the Punjab as constituted

Notification No. 2943-S., dated 1st October 1912.

ANNUAL FORM No. V.

DEATHS REGISTERED ACCORDING TO CLASSES IN THE DISTRICTS OF THE PUNJAB DURING
THE YEAR 1919.

1		2		3				4					5				
		POPULATION ACCORDING TO CENSUS OF 1911.					NUMBER OF DEATHS REGISTERED.					RATIO OF DEATHS PER 1,000 OF POPULATION.					
DISTRICTS.		Muhammadians.	Hindus.	Indian Christians.	Other classes.	Total.	Muhammadians.	Hindus.	Indian Christians.	Other classes.	Total.	Muhammadians.	Hindus.	Indian Christians.	Other classes.	Total.	
No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
AMBALA DIVISION.																	
1	Hissar ...	218,600	585,995	79	215	804,889	6,365	16,279	...	...	22,644	29.12	27.78	...	...	28.13
2	Rohtak ...	113,493	600,168	1,136	37	714,834	4,793	20,178	14	1	24,986	42.23	33.62	12.32	27.03	34.95	
3	Gurgaon ...	235,653	492,684	187	143	729,167	9,988	18,394	5	26	28,413	42.38	37.33	7.23	181.82	38.97	
4	Karnal ...	224,920	573,947	826	84	799,787	9,178	18,953	3	5	28,139	40.81	33.02	3.59	59.53	35.18	
5	Ambala ...	188,252	443,202	745	354	632,553	6,315	13,933	9	...	20,262	33.55	31.45	12.08	...	32.03	
6	Simla ...	4,775	27,093	533	2,569	34,970	191	805	10	...	1,006	40.00	29.71	18.76	...	28.77	
JULLUNDUR DIVISION.																	
7	Kangra ...	38,770	723,570	221	4,125	766,686	910	23,382	3	...	24,295	23.47	22.31	13.57	...	31.69	
8	Hoshiarpur ..	231,805	633,786	2,954	21	918,569	7,588	17,556	21	...	25,165	26.93	27.70	7.11	...	27.40	
9	Jullundur ...	352,329	434,503	1,107	17	787,956	9,164	10,461	2	...	19,627	26.01	24.03	1.81	...	24.91	
10	Ludhiana ...	176,043	340,231	731	157	517,192	5,101	8,550	15	...	13,666	28.93	25.13	20.51	...	26.42	
11	Ferozepore ...	408,380	524,056	915	148	933,499	12,552	13,254	8	...	25,814	30.74	35.29	8.74	...	27.65	
LAHORE DIVISION.																	
12	Lahore ...	619,735	377,923	15,972	4,107	1,017,742	19,572	8,688	433	...	28,693	31.58	22.99	27.11	...	23.19	
13	Amritsar ...	408,571	466,202	4,189	319	879,311	11,166	12,908	104	2	24,180	27.33	27.69	24.33	5.73	27.50	
14	Gurdaspur ...	407,701	401,623	23,063	164	832,561	10,645	10,291	522	15	21,473	26.11	25.62	22.63	91.46	25.79	
15	Sialkot ...	599,340	317,942	45,727	270	963,279	15,688	7,535	1,308	22	24,533	26.17	23.79	28.60	81.48	25.52	
16	Gujranwala ..	622,430	284,773	16,117	99	923,419	20,853	6,919	836	49	27,757	33.50	21.14	51.37	494.95	30.06	
RAWALPINDI DIVISION.																	
17	Gujrat ...	650,893	94,171	463	107	745,634	18,363	2,405	22	27	20,817	28.21	25.54	47.52	252.34	27.92	
18	Shahpur ...	572,565	106,156	8,419	223	687,366	12,471	2,020	251	..	14,748	21.78	19.09	29.81	...	21.46	
19	Jhelum ...	449,553	54,364	151	127	504,195	12,060	1,513	6	...	13,579	26.33	27.83	39.73	...	26.93	
20	Rawalpindi ...	442,090	64,209	932	411	507,642	11,792	2,226	36	12	14,066	26.67	24.73	35.83	29.05	2.71	
21	Attock ...	470,155	45,071	31	29	515,286	13,922	1,289	...	...	15,211	29.61	28.60	...	...	19.52
22	Mianwali ...	299,971	41,233	91	77	341,377	8,458	1,107	1	...	9,566	28.20	26.84	10.99	...	28.02	
MULTAN DIVISION.																	
23	Montgomery	376,174	127,368	459	114	504,115	12,147	3,691	122	42	16,002	32.29	28.98	265.79	368.41	31.74	
24	Lyallpur ...	547,837	309,021	31,889	148	888,895	14,289	7,972	1,084	32	23,377	26.09	25.50	34.02	216.22	26.80	
25	Jhang ...	422,468	93,857	177	24	515,526	10,224	2,482	2	3	12,711	24.20	26.73	11.30	125.00	24.66	
26	Multan ...	660,320	140,359	384	312	801,375	17,641	3,903	117	8	21,669	26.72	27.81	304.69	25.64	27.54	
27	Muzaffargarh	494,915	74,431	40	25	569,461	12,847	1,935	...	...	14,782	25.96	25.98	...	...	25.96
28	Dera Ghazi Khan.	442,234	57,550	25	51	499,860	9,613	1,220	2	4	10,839	21.74	21.20	80.00	78.43	21.68	
Total for the Province.		10,729,972	8,434,533	158,078	14,513	19,337,146	303,896	233,990	4,936	248	518,070	29.32	28.33	31.22	*17.02	28.34	

* Figures incorrect due to misclassification.

ANNUAL FORM No. VI.

DEATHS REGISTERED FROM DIFFERENT CAUSES IN THE DISTRICTS (RURAL
CIRCLES) OF THE PUNJAB DURING THE YEAR 1919.

DEATHS REGISTERED FROM DIFFERENT CAUSES IN THE DISTRICTS

1	2	3	4	5	6	7	8	9	10					
No.	A.—RURAL CIRCLES.	Population according to Census of 1911.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	INJURIES.					
									Suicides.		Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.
									Males.	Females.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AMBALA DIVISION.														
1	Hissar ...	725,016	27	1,003	469	14,533	165	377	3	6	163	23	1	196
2	Rohtak ...	654,115	62	48	3,087	13,742	177	802	9	56	222	10	...	297
3	Gurgaon ...	675,175	472	71	61	17,528	289	814	11	27	169	14	...	221
4	Karnal ...	723,742	291	330	14	18,504	119	829	3	5	203	34	9	254
5	Ambala ...	577,034	30	201	61	12,879	244	2,576	4	4	119	19	9	155
6	Simla ...	16,036	...	6	...	229	33	92	...	...	1	1	...	2
JULLUNDUR DIVISION.														
7	Kangra ...	760,548	14	118	...	16,314	456	3,503	7	6	244	24	...	281
8	Hoshiarpur ...	864,823	13	1,784	72	16,420	30	1,991	5	3	161	18	9	193
9	Jullundur ...	691,816	71	249	119	12,126	109	979	3	6	199	2	13	223
10	Ludhiana ...	448,172	8	493	62	6,422	93	647	...	2	108	5	6	121
11	Ferozepore ...	869,652	190	1,562	1,127	14,196	165	988	13	4	192	17	3	229
LAHORE DIVISION.														
12	Lahore ...	744,464	311	998	1,492	11,441	112	486	1	1	206	20	5	233
13	Amritsar ...	711,530	339	422	13	13,580	167	846	8	2	190	7	13	220
14	Gurdaspur ...	784,343	11	430	94	11,246	433	5,018	2	2	169	19	9	201
15	Sialkot ...	855,399	19	629	211	14,361	376	2,352	5	1	203	23	5	237
16	Gujranwala ...	831,894	733	128	271	19,828	70	262	3	3	262	94	6	368
RAWALPINDI DIVISION.														
17	Gujrat ...	702,886	196	366	26	14,337	210	1,309	...	...	197	25	...	222
18	Shahpur ...	630,940	229	339	58	9,347	128	488	...	1	218	25	2	246
19	Jhelum ...	481,307	98	837	256	8,180	144	893	2	...	136	24	3	165
20	Rawalpindi ...	459,639	464	158	23	7,266	1,443	1,031	3	2	221	34	1	261
21	Attock ...	496,291	1,992	254	755	9,164	39	514	1	...	155	17	...	173
22	Mianwali ...	316,243	311	12	4	6,662	111	240	3	1	92	7	...	103
MULTAN DIVISION.														
23	Montgomery ...	479,837	...	1,245	893	10,858	30	65	2	3	172	51	1	229
24	Lyallpur ...	863,900	1,371	1,110	302	14,195	318	624	1	1	257	40	20	319
25	Jhang ...	475,527	87	110	25	7,670	150	205	2	1	142	41	1	187
26	Multan ...	709,294	41	80	95	15,024	55	181	1	...	243	54	...	297
27	Muzaffargarh ...	547,005	1	10	...	12,589	15	134	6	...	141	88	...	235
28	Dera Ghazi Khan ...	463,304	60	10	...	8,859	26	66	1	2	71	31	1	106
Total of the Rural Circles...		17,559,932	7,441	13,003	9,620	337,505	5,777	28,357	99	139	4,855	767	117	5,977

No. VI.

(RURAL CIRCLES) OF THE PUNJAB DURING THE YEAR 1919.

11	12	13								14		15
All other causes.	Total deaths from all causes.	RATIO OF DEATHS PER 1,000 OF POPULATION.								FROM ALL CAUSES.		No.
		Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean ratio of previous five years.	
16	17	18	19	20	21	22	23	24	25	26	27	28
2,943	19,718	0·04	1·38	0·65	20·05	0·23	0·52	0·27	4·06	27·20	43·85	1
4,204	22,419	0·09	0·07	4·72	21·01	0·27	1·23	0·45	6·43	34·27	46·75	2
6,833	26,289	0·70	0·11	0·09	25·96	0·43	1·21	0·33	10·12	38·94	59·78	3
4,882	25,263	0·40	0·46	0·02	25·57	0·16	1·20	0·35	6·75	34·91	46·53	4
2,424	18,570	0·05	0·35	0·11	22·32	0·42	4·46	0·27	4·20	32·18	43·73	5
106	468	...	0·37	...	14·28	2·06	5·74	0·12	6·61	29·18	28·10	6
3,488	24,174	0·02	0·16	...	21·45	0·60	4·61	0·37	4·59	31·78	35·92	7
3,009	23,515	0·02	2·06	0·08	18·99	0·03	2·30	0·23	3·48	27·19	37·44	8
2,983	16,889	0·10	0·35	0·22	17·53	0·16	1·42	0·32	4·31	24·41	41·54	9
3,542	11,388	0·02	1·10	0·14	14·33	0·21	1·44	0·27	7·90	25·41	49·47	10
5,492	23,949	0·22	1·80	1·30	16·32	0·19	1·14	0·26	6·32	27·54	43·14	11
4,336	19,409	0·42	1·34	2·00	15·37	0·15	0·65	0·31	5·82	26·07	46·62	12
2,633	18,220	0·48	0·59	0·02	19·09	0·23	1·19	0·31	3·70	25·61	47·92	13
2,574	20,007	0·01	0·55	0·12	14·34	0·55	6·40	0·26	3·28	25·51	46·89	14
3,248	21,433	0·02	0·74	0·25	16·79	0·44	2·75	0·28	3·80	25·06	44·65	15
2,795	24,455	0·88	0·15	0·33	23·83	0·08	0·31	0·44	3·36	29·40	53·20	16
2,556	19,222	0·28	0·52	0·04	20·40	0·30	1·86	0·32	3·64	27·35	45·10	17
2,350	13,185	0·36	0·54	0·09	14·81	0·20	0·77	0·39	3·72	20·90	38·85	18
2,034	12,612	0·20	1·74	0·53	17·00	0·30	1·87	0·34	4·23	26·20	40·91	19
1,081	11,727	1·01	0·34	0·05	15·81	3·14	2·24	0·57	2·35	25·51	44·33	20
1,739	14,639	4·01	0·51	1·52	18·46	0·08	1·04	0·35	3·50	29·48	38·73	21
1,337	8,780	0·93	0·04	0·01	21·07	0·35	0·76	0·33	4·23	27·76	41·42	22
1,979	15,299	...	2·59	1·86	22·63	0·06	0·14	0·48	4·12	31·88	41·44	23
4,463	22,702	1·59	1·28	0·34	16·43	0·37	0·72	0·37	5·17	26·28	34·50	24
2,842	11,276	0·18	0·23	0·05	16·13	0·32	0·43	0·39	5·98	23·71	38·52	25
2,550	18,323	0·06	0·11	0·13	21·19	0·08	0·26	0·42	3·60	25·83	41·34	26
991	13,975	0·001	0·02	...	23·01	0·03	0·25	0·43	1·81	25·55	40·51	27
719	9,846	0·13	0·02	...	19·12	0·06	0·14	0·23	1·55	21·25	37·45	28
80,133	487,743	0·42	0·74	0·55	19·22	0·33	1·62	0·34	4·56	27·78	43·55	

DEATHS REGISTERED FROM DIFFERENT CAUSES IN THE

1	2	3	4	5	6	7	8	9	10					
No.	P.—TOWNS.	Population according to Census of 1911.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	INJURIES.					
									Suicide.		Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.
									Males.	Females.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
HISSAR DISTRICT.														
1	Hissar	17,162	...	9	2	299	37	112	...	...	4	...	...	4
2	Hansi	14,576	...	2	...	156	21	68	...	1	5	...	...	6
3	Bhiwani	31,100	2	8	1	490	81	132	...	...	13	...	...	13
4	Sirsa	14,629	...	40	...	220	28	44	...	...	2	...	...	2
5	Fatehabad	2,406	...	1	...	42	7	4	...	...	3	...	...	3
ROHTAK DISTRICT.														
6	Rohtak	19,362	11	1	8	323	32	78	...	...	7	...	...	7
7	Jhajjar	10,617	...	1	1	95	29	53	...	1	4	1	1	7
8	Beri	7,798	...	1	132	92	42	33	...	...	3	...	...	3
9	Gohana	5,438	...	...	...	122	2	33	...	...	1	...	...	1
10	Bahadurgarh	4,990	2	...	...	162	15	11	...	...	1	...	...	1
11	Sonepat	12,014	...	12	...	197	20	43	1	...	1	...	...	2
GURGAON DISTRICT.														
12	Rowari	24,780	32	...	7	116	74	151	...	...	...	1	...	1
13	Palwal	9,485	...	1	...	270	75	35	...	1	...	...	...	1
14	Firozpur	5,719	...	1	...	122	10	2	2	...	1	1	...	4
15	Hodal	5,468	...	18	...	132	23	4	...	...	...	...	...	...
16	Ballabgarh	4,053	...	6	...	103	26	6	...	...	...	...	...	...
17	Faridabad	4,487	1	1	...	138	13	14	...	...	...	...	...	...
KARNAL DISTRICT.														
18	Karnal	21,018	62	1	...	554	49	75	...	...	1	...	...	1
19	Kaithal	12,912	13	2	1	291	19	38	...	...	1	...	...	1
20	Panipat	26,342	...	2	...	399	31	78	...	...	1	...	...	1
21	Shahabad	11,054	...	1	...	114	11	33	...	...	1	...	...	1
22	Thanesar	4,719	6	1	...	88	4	7	...	...	1	...	...	1
AMBALA DISTRICT.														
23	Ambala	24,493	25	57	...	244	43	154	1	...	10	...	...	11
24	Jagadhri	12,045	4	3	...	216	33	83	1	...	3	...	...	4
25	Burya	4,272	...	4	...	83	3	24	...	...	...	...	...	...
26	Sadhaura	7,774	...	8	...	90	25	34	...	...	1	1	...	2
27	Rupar	6,935	...	9	...	59	20	25	...	...	1	...	...	1
SIMLA DISTRICT.														
28	Simla	18,934	...	9	...	309	61	13	...	...	2	1	...	3
KANGRA DISTRICT.														
29	Kangra	3,620	...	4	...	28	7	16	...	...	2	...	...	2
30	Dharmasala	2,518	...	...	...	26	...	13	...	...	1	...	...	1
HOSHIARPUR DISTRICT.														
31	Hoshiarpur	16,980	2	41	2	185	9	114	...	...	7	...	...	7
32	Khanpur	2,523	...	5	...	26	...	7	...	...	...	...	...	...
33	Hariara	5,395	...	22	...	71	...	13	...	...	1	...	...	1
34	Garhdiwala	3,093	...	21	...	48	1	14	...	...	...	...	...	...
35	Dasuya	3,597	...	17	...	88	...	22	...	...	2	...	...	2
36	Tanda Urmar	7,016	...	36	...	148	...	36	...	...	...	...	2	2
37	Miani	4,870	...	1	...	96	...	15	...	...	1	...	...	1
38	Mukerian	2,053	...	11	1	51	1	17	...	...	2	...	...	2
39	Una	4,178	1	35	...	60	...	7	...	...	5	...	...	5
40	Anandpur	4,041	...	21	...	57	...	9	...	...	1	...	...	1
JULLUNDUR DISTRICT.														
41	Jullundur	55,354	46	43	1	652	112	375	1	...	23	1	2	27
42	Kartarpur	8,631	4	31	...	110	8	40	...	...	3	1	1	5
43	Bangah	4,602	1	4	...	61	13	14	...	...	1	1	...	2
44	Rahon	6,292	...	2	...	146	5	7	...	...	2	...	...	2
45	Phillaur	5,224	5	40	...	97	13	22	...	...	1	...	...	1
46	Nurmahal	7,178	...	6	...	108	11	50	1	...	5	...	...	6
47	Nakodar	8,859	...	24	...	98	8	34	...	...	3	...	...	3

No. VI—CONTINUED.

TOWNS OF THE PUNJAB DURING THE YEAR 1919—CONTINUED.

11	12	13										14
All other causes.	Total deaths from all causes.	RATIO OF DEATHS PER 1,000 OF POPULATION.										No.
		Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diar- rhea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.		
										For the year.	Mean ratio of previous five years.	
16	17	18	19	20	21	22	23	24	25	26	27	28
273	736	...	0.52	0.12	17.42	2.16	6.53	0.23	15.91	42.89	48.55	1
177	430	...	0.14	...	10.70	1.44	4.67	0.41	12.14	29.50	59.03	2
508	1,235	0.06	0.26	0.03	15.76	2.60	4.24	0.42	16.33	39.71	53.36	3
118	452	...	2.73	...	15.04	1.91	3.01	0.14	8.07	30.90	48.66	4
16	73	...	0.42	...	17.46	2.91	1.66	1.25	6.65	30.34	28.35	5
333	793	0.55	0.05	0.40	16.26	1.61	3.93	0.35	16.77	39.93	47.03	6
229	415	...	0.09	0.09	8.95	2.73	4.99	0.66	21.57	39.69	53.97	7
96	399	...	0.13	16.93	11.80	5.39	4.23	0.38	12.31	51.17	62.76	8
94	252	...	...	...	22.43	0.37	6.07	0.18	17.19	46.34	59.95	9
82	273	0.40	...	...	32.46	3.01	2.20	0.20	16.13	54.71	57.15	10
161	435	...	1.00	...	16.40	1.66	3.58	0.17	13.40	36.21	44.86	11
345	726	1.29	...	0.28	4.68	2.99	6.09	0.04	13.92	29.30	39.85	12
163	545	...	0.11	...	28.47	7.91	3.69	0.11	17.19	57.46	67.29	13
70	209	...	0.17	...	21.33	1.75	0.35	0.76	12.24	36.54	66.20	14
84	261	...	3.29	...	24.14	4.21	0.73	...	15.36	47.73	70.78	15
50	191	...	1.48	...	25.41	6.41	1.48	...	12.34	47.13	49.84	16
25	192	0.22	0.22	...	30.76	2.90	3.12	...	5.57	42.79	62.49	17
279	1,021	2.95	0.05	...	26.36	2.33	3.57	0.05	13.27	48.58	47.76	18
174	559	1.01	1.70	0.08	22.54	1.47	2.94	0.08	13.48	43.29	50.46	19
381	892	...	0.08	...	15.15	1.18	2.93	0.04	14.46	33.86	54.62	20
96	256	...	0.09	...	10.31	1.00	2.99	0.09	8.68	23.16	36.95	21
41	148	1.27	0.21	...	18.65	0.85	1.43	0.21	8.69	31.36	36.41	22
158	602	1.02	2.33	...	9.96	1.76	6.29	0.45	6.45	28.25	40.71	23
126	469	0.33	0.25	...	17.93	2.74	6.89	0.33	10.46	38.94	55.13	24
51	165	...	0.94	...	19.43	0.76	5.62	...	11.94	38.62	47.10	25
48	207	...	1.03	...	11.53	3.22	4.37	0.26	6.17	26.63	40.13	26
45	159	...	1.30	...	8.51	2.85	3.60	0.14	6.49	22.93	40.23	27
138	538	...	0.48	...	16.32	3.22	0.95	0.16	7.29	28.41	26.62	28
14	71	...	1.10	...	7.73	1.93	4.42	0.55	3.87	19.61	31.77	29
10	50	...	...	...	10.33	...	5.16	0.40	3.97	19.83	26.37	30
121	481	0.12	2.41	0.12	10.90	0.53	6.71	0.41	7.13	28.33	41.11	31
31	69	...	1.93	...	10.31	...	2.77	...	12.29	27.95	39.48	32
17	124	...	4.08	...	13.15	...	2.41	0.19	3.15	22.93	36.33	33
19	103	...	6.79	...	15.52	0.33	4.53	...	6.14	33.30	32.85	34
35	161	...	4.73	...	24.46	...	6.12	0.56	9.73	45.59	65.50	35
22	244	...	5.13	...	21.09	...	5.13	0.29	3.14	34.78	38.37	36
15	128	...	0.21	...	19.71	...	3.08	0.21	3.08	26.28	31.99	37
29	112	...	5.36	0.49	24.84	0.49	8.28	0.97	14.13	54.55	59.72	38
18	126	0.24	8.38	...	14.36	...	1.68	1.20	4.31	30.16	31.93	39
11	99	...	5.20	...	14.11	...	2.23	0.25	2.72	21.50	24.25	40
288	1,544	0.83	0.78	0.02	11.78	2.02	6.77	0.49	5.20	27.89	40.85	41
48	246	0.46	3.59	...	12.74	0.93	4.63	0.58	5.56	28.50	46.09	42
34	129	0.22	0.87	...	13.26	2.82	3.04	0.43	7.39	28.03	35.72	43
25	187	...	0.32	...	23.20	0.80	1.11	0.32	3.97	29.72	40.12	44
35	213	0.96	7.66	...	18.57	2.49	4.21	0.19	6.70	40.77	44.93	45
22	263	...	0.84	...	15.05	1.53	6.97	0.84	3.06	28.28	44.52	46
49	216	...	2.71	...	11.06	0.90	3.84	0.34	5.53	21.38	45.17	47

ANNUAL FORM

DEATHS REGISTERED FROM DIFFERENT CAUSES IN THE

1	2	3	4	5	6	7	8	9	10					
No.	B.—TOWNS.	Population according to Census of 1911.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	INJURIES.					
									Suicide.		Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.
									Males.	Females.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LUDHIANA DISTRICT.														
48	Ludhiana	43,152	3	100	...	705	103	194	...	...	12	...	...	12
49	Jagraon	15,039	...	34	1	146	19	93	...	...	4	...	3	7
50	Raekot	7,510	...	...	...	84	5	12	...	...	5	...	...	5
51	Khanna	3,319	...	14	...	35	1	9	...	...	2	...	...	2
FEROZEPUR DISTRICT.														
52	Ferozepore	24,678	10	20	...	291	37	121	...	...	6	...	...	6
53	Zira	4,378	...	10	1	42	4	7	...	...	5	1	1	7
54	Dharmkot	5,859	...	5	...	47	6	14	...	...	...	...	...	...
55	Muktsar	8,834	...	61	18	62	11	11	1	...	...	1	...	...
56	Fazilka	10,955	68	32	16	212	14	84	...	...	7	...	...	2
57	Moga	9,113	...	17	...	71	2	8	...	1	...	1	...	7
LAHORE DISTRICT.														
58	Lahore	210,271	101	80	7	3,713	311	1,274	3	...	139	4	2	148
59	Chunian	7,151	19	18	6	119	9	18	...	...	4	...	...	4
60	Khudian	2,992	...	10	60	40	8	8	...	...	1	...	...	1
61	Kasur	24,783	6	82	1	377	32	65	...	...	14	...	1	15
62	Khem Karn	5,732	2	1	...	43	3	21	...	...	...	...	...	...
63	Patti	7,987	4	35	...	109	8	30	...	...	1	...	...	1
64	Baghbanpura Bhogiwal	6,993	22	8	...	11	4	13	...	...	2	1	1	4
65	Ichhra	5,489	...	1	...	32	1	7	...	...	...	...	...	...
66	Pattoki Mandi	1,880	6	14	45	45	6	2	...	...	...	...	...	...
AMRITSAR DISTRICT.														
67	Amritsar	151,369	88	95	2	2,250	139	1,973	3	...	274	1	1	279
68	Majitha	5,223	2	18	...	52	9	20	...	...	2	1	...	3
69	Jandiala	6,959	...	30	...	97	6	8	...	...	1	...	...	1
70	Tarn Taran	4,260	35	8	...	60	9	10	...	...	2	...	...	2
GURDASPUR DISTRICT.														
71	Gurdaspur	5,132	3	18	...	70	11	19	...	...	...	...	...	...
72	Dinanagar	4,154	1	4	...	53	8	23	...	...	...	1	...	1
73	Pathankot	7,007	7	27	...	99	10	63	...	...	1	...	...	1
74	Dalhousie	958	...	...	...	8	1	10	...	...	...	...	...	...
75	Batala	26,430	38	71	...	338	32	151	...	...	13	...	1	14
76	Dera Nanak	4,556	...	2	...	55	5	26	...	...	...	...	...	...
SIALKOT DISTRICT.														
77	Sialkot	48,595	45	41	1	575	99	432	...	...	19	1	1	21
78	Daska	6,046	...	14	...	80	9	16	...	...	2	...	1	3
79	Jamke	3,542	...	6	...	57	5	18	...	...	...	...	...	...
80	Paerur	7,564	3	5	...	83	11	54	...	...	...	...	1	1
81	Zaffarwal	3,633	1	3	...	19	2	28	...	...	...	...	...	...
82	Narowal	4,464	...	14	...	62	5	37	...	...	...	...	2	2
83	Sambrial	6,285	...	1	...	60	5	19	...	...	1	...	...	1
84	Sahowala	3,558	1	4	37	57	2	3	...	...	...	...	...	...
85	Begowala	3,768	...	10	...	76	...	8	...	...	2	1	...	3
86	Bhopalwala	3,336	...	...	...	29	3	6	...	...	...	...	...	...
87	Mitranwali	3,183	...	8	...	24	10	39	...	...	...	...	...	...
88	Badomali	2,815	...	...	...	13	6	3	...	...	2	...	...	2
89	Kalaswala	2,915	...	4	...	26	6	29	...	...	1	...	...	1
90	Daud	3,481	...	8	...	61	...	9	...	...	1	...	...	1
91	Chawinda	4,695	...	7	1	31	5	30	...	...	2	...	...	2
GUJRANWALA DISTRICT.														
92	Gujranwala	28,637	4	160	143	690	22	152	...	...	25	...	...	25
93	Wazirabad	17,146	15	3	...	341	11	54	...	...	1	...	1	2
94	Eminabad	5,526	...	19	30	62	2	15	...	1	3	...	...	4
95	Kila Didar Singh	2,210	...	1	...	40	...	11	...	...	...	...	1	1
96	Akalgah	3,943	7	7	...	26	...	14	...	...	1	...	...	1
97	Ramnagar	5,256	...	29	...	97	3	8	...	...	2	...	...	2
98	Sohdra	4,666	3	8	...	112	5	11	...	...	3	...	...	3
99	Hafizabad	5,742	...	15	...	109	14	28	1	...	2	...	...	3
100	Khangah Dogran	1,267	3	5	...	26	1	2	...	...	...	...	...	...
101	Pindi Bhattian	3,631	...	4	...	47	3	10	...	...	...	1	...	1
102	Sangla	930	45	4	...	20	...	2	...	...	...	...	...	...
103	Sharakpur	4,482	...	5	...	58	3	7	...	...	1	...	...	1
104	Shahkot	1,554	14	2	13	19	2	1	...	...	1	...	...	1
105	Chuhar Kana Mandi	854	14	2	...	32	...	5	...	...	...	...	...	...
106	Nankana Sahib	6,131	20	16	2	65	1	7	...	...	3	1	...	4

No. VI—CONTINUED.

TOWNS OF THE PUNJAB DURING THE YEAR 1919—CONTINUED.

11	12	13										14
All other causes.	Total deaths from all causes.	RATIO OF DEATHS PER 1,000 OF POPULATION.										No.
		Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.		
										For the year.	Mean ratio of previous five years.	
16	17	18	19	20	21	22	23	24	25	26	27	28
412	1,529	0·07	2·32	...	16·34	2·39	4·49	0·28	9·55	35·43	45·68	48
188	493	...	2·26	0·07	9·71	1·26	6·52	0·47	12·50	32·78	53·77	49
63	169	...	...	...	11·19	0·67	1·60	0·67	8·39	22·50	48·23	50
26	87	...	4·22	...	10·55	0·30	2·71	0·60	7·83	26·21	49·23	51
179	664	0·41	0·81	...	11·79	1·50	4·90	0·24	7·25	26·91	37·63	52
41	112	...	2·28	0·23	9·59	0·92	1·60	1·60	9·37	25·58	43·86	53
91	163	...	0·85	...	8·02	1·03	2·39	...	15·53	27·82	37·62	54
66	231	...	6·91	2·04	7·02	1·25	1·25	0·23	7·47	26·15	43·23	55
123	556	6·19	2·91	1·46	19·30	1·28	7·65	0·64	11·20	50·61	58·50	56
39	139	...	1·86	...	7·79	0·22	0·88	0·22	4·28	15·25	Not available.	57
1,522	7,156	0·48	0·38	0·03	17·66	1·46	6·06	0·70	7·21	34·03	42·01	58
86	289	4·06	2·52	0·84	16·64	1·26	2·52	0·56	12·03	40·41	57·36	59
18	140	...	3·34	20·05	13·37	1·00	2·67	0·33	6·02	46·79	45·79	60
264	842	0·24	3·31	0·04	15·21	1·29	2·62	0·61	10·65	33·97	44·25	61
81	151	0·35	0·17	...	7·50	0·52	3·66	...	14·13	26·34	40·93	62
74	261	0·50	4·38	...	13·65	1·00	3·76	0·13	9·27	32·68	42·82	63
45	253	3·15	1·14	...	23·03	0·57	1·85	0·57	6·58	36·89	Not available.	64
7	48	...	0·18	...	5·83	0·18	1·28	...	1·28	8·74	Not available.	65
21	139	3·19	7·45	23·94	23·94	3·19	1·06	...	11·17	73·94	Not available.	66
661	5,482	0·55	0·63	0·01	14·87	0·92	13·04	1·84	4·37	36·22	53·47	67
55	169	0·38	3·45	...	9·96	1·72	3·83	0·57	10·53	30·44	44·88	68
33	175	...	4·34	...	13·94	0·86	1·15	0·14	4·74	25·15	41·18	69
20	144	8·22	1·88	...	14·03	2·11	2·35	0·47	4·69	33·80	39·67	70
27	148	0·58	3·51	...	13·64	2·14	3·70	...	5·26	28·83	42·63	71
33	123	0·24	0·96	...	12·76	1·93	5·54	0·24	7·91	29·61	53·73	72
56	263	1·00	3·85	...	14·13	1·43	8·90	0·14	7·99	37·53	53·63	73
1	20	...	...	...	8·53	1·07	10·66	...	1·07	21·32	33·05	74
172	811	1·25	2·69	...	12·79	1·21	5·71	0·53	6·51	30·68	45·49	75
13	101	...	0·44	...	12·07	1·10	5·71	...	2·85	22·17	35·29	76
467	1,681	0·93	0·84	0·02	11·83	2·04	8·89	0·43	9·61	34·59	40·35	77
37	159	...	2·32	...	13·23	1·49	2·65	0·50	6·12	26·30	34·57	78
32	118	...	1·69	...	16·09	1·41	5·03	...	9·03	33·31	42·69	79
42	199	0·40	0·66	...	10·97	1·45	7·14	0·13	5·55	26·31	37·86	80
13	66	0·28	0·83	...	5·23	0·56	7·71	...	3·58	18·17	43·77	81
34	154	...	3·14	...	13·89	1·12	8·28	0·45	7·62	31·50	44·35	82
6	92	...	0·16	...	9·55	0·80	3·02	0·16	0·95	14·64	Not available.	83
11	115	0·23	1·12	10·40	16·02	0·56	0·84	...	3·09	32·32	Not available.	84
14	111	...	2·65	...	20·17	...	2·12	0·80	3·72	29·46	Not available.	85
15	53	...	...	...	8·69	0·90	1·00	...	4·50	15·89	Not available.	86
23	104	...	2·51	...	7·54	3·14	12·25	...	7·23	32·67	Not available.	87
12	36	...	...	...	4·62	2·13	1·06	0·72	4·26	12·79	Not available.	88
11	77	...	1·37	...	8·92	2·06	9·95	0·34	3·77	26·42	Not available.	89
18	97	...	2·30	...	17·52	...	2·59	0·29	5·17	27·87	Not available.	90
12	83	...	1·49	0·21	6·60	1·06	6·39	0·43	2·56	18·74	Not available.	91
204	1,460	0·14	5·59	4·99	24·09	0·77	5·31	0·87	7·12	48·89	48·08	92
99	525	0·87	0·17	...	19·89	0·64	3·15	0·12	5·77	30·62	42·93	93
18	150	...	3·44	5·43	11·22	0·36	2·71	0·72	3·26	27·14	41·69	94
21	74	...	0·45	...	18·10	...	4·98	0·45	9·50	33·48	54·03	95
4	19	1·78	1·78	...	6·59	...	3·55	0·25	1·01	14·96	25·67	96
33	172	...	5·52	...	18·46	0·57	1·52	0·33	6·28	32·72	47·22	97
32	174	0·64	1·71	...	24·00	1·07	2·36	0·64	6·86	37·29	53·02	98
34	203	...	2·61	...	18·93	2·44	4·88	0·52	5·92	35·35	40·44	99
8	45	2·37	3·95	...	20·52	0·79	1·58	...	6·31	35·52	32·68	100
25	90	...	1·10	...	12·94	0·83	2·75	0·28	6·88	24·79	38·28	101
...	71	45·91	4·08	...	20·41	...	2·04	...	...	72·45	32·24	102
23	97	...	1·12	...	12·94	0·67	1·56	0·22	5·13	21·64	47·70	103
4	56	13·28	1·90	12·33	18·04	1·90	0·95	0·95	3·80	53·13	40·04	104
8	61	16·39	2·34	...	37·47	...	5·85	...	9·37	71·48	Not available.	105
10	125	3·28	2·51	0·33	10·60	0·16	1·14	0·66	1·63	20·39	Not available.	106

ANNUAL FORM

DEATHS REGISTERED FROM DIFFERENT CAUSES IN THE

1	2	3	4	5	6	7	8	9	10					
No.	B. Towns.	Population according to Census of 1911.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	INJURIES.					
									Suicide.		Wounds and accidents.	Snake-bites and killed by wild beasts.	Rabies.	Total.
									Males.	Females.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
GUJRAT DISTRICT.														
107	Gujrat	18,692	45	17	2	403	25	121	...	...	11	1	...	12
108	Jalalpur	11,615	16	5	1	232	20	75	...	...	2	...	...	2
109	Kunjah	7,090	7	7	...	157	9	12	...	...	1	...	...	1
110	Dinga	5,351	2	25	...	61	3	31	...	...	1	...	...	1
SHAHPUR DISTRICT.														
111	Shahpur	8,739	...	1	...	41	11	51	...	...	2	...	...	2
112	Sahiwal	7,658	...	25	...	93	2	21	...	...	5	...	...	5
113	Bhara	15,202	...	15	1	238	47	47	...	...	12	...	...	12
114	Miani	5,819	...	12	1	92	10	11	...	...	6	...	...	6
115	Khushab	10,159	...	5	...	112	27	54	...	...	1	...	1	2
116	Sargodha	8,849	...	7	...	54	11	22	...	...	5	1	...	6
JHELUM DISTRICT.														
117	Jhelum	12,293	6	14	164	257	14	84	1	...	6	...	...	7
118	Pind Dadan Khan	10,590	...	10	...	209	16	29	...	...	...	1	...	1
RAWALPINDI DISTRICT.														
119	Rawalpindi	43,642	133	61	297	876	122	321	1	1	22	...	...	24
120	Murree	1,361	1	...	...	14	2	8	...	...	1	...	...	1
ATTOCK DISTRICT.														
121	Findigheb	9,045	19	...	1	131	...	21	...	...	3	...	...	3
122	Hazro	9,950	11	19	82	130	10	41	...	...	...	...	...	...
MIANWALI DISTRICT.														
123	Mianwali	6,224	...	...	...	111	10	7	...	...	2	...	...	2
124	Bhakkar	5,388	...	3	...	160	2	4	...	...	2	...	...	2
125	Isa Khel	6,863	2	...	...	125	9	4	...	...	2	...	...	2
126	Kalabagh	6,654	11	...	...	185	28	11	...	...	4	...	...	4
MONTGOMERY DISTRICT.														
127	Montgomery	8,129	4	19	1	99	3	27	...	...	...	...	...	...
128	Kamalia	8,237	...	33	...	145	8	8	...	...	...	...	...	...
129	Pakpattan	7,912	...	33	...	173	...	1	...	...	...	...	...	...
LYALLPUR DISTRICT.														
130	Lyallpur	19,578	6	52	30	203	30	77	...	...	8	...	...	8
131	Gojra	5,417	3	8	50	51	4	23	...	...	5	...	...	5
JHANG DISTRICT.														
132	Jhang-Maghiana	25,914	4	6	7	411	107	48	...	...	4	...	1	5
133	Chiniot	14,085	33	117	...	168	23	29	...	...	15	1	...	16
MULTAN DISTRICT.														
134	Multan	85,747	...	35	266	1,274	208	561	...	...	12	4	...	16
135	Shujabad	6,334	...	17	3	140	16	29	...	...	2	2	...	4
MUZAFFARGARH DISTRICT.														
136	Muzaffargarh	4,119	...	2	1	73	4	23	...	...	2	...	...	2
137	Khangarh	3,349	...	...	...	56	8	12	...	...	...	1	...	1
138	Alipur	3,312	...	...	...	56	17	14	...	...	2	...	...	2
139	Leiah	8,173	...	3	...	200	10	7	...	...	1	...	...	1
140	Karor	3,503	...	2	...	86	16	12	...	...	1	...	...	1
DERA GHAZI KHAN DISTRICT.														
141	Dera Ghazi Khan	16,853	7	5	1	219	25	11	...	...	2	1	...	3
142	Jampur	6,517	...	...	...	112	3	3	...	...	...	...	...	...
143	Dajal	6,893	...	1	...	110	4	12	...	...	...	...	...	...
144	Rajapur	3,704	...	...	...	126	...	7	...	...	...	...	...	...
145	Kot Mithan	2,589	...	...	...	57	2	3	...	...	...	...	...	...
Total		1,777,214	1,120	2,362	1,448	27,540	2,932	9,456	17	6	836	35	25	919
Total for the Province		9,337,146	8,561	15,365	11,068	365,045	8,639	37,813	116	145	5,691	802	142	6,896

VI—CONCLUDED.

TOWNS OF THE PUNJAB DURING THE YEAR 1919—CONCLUDED.

11	12	13										14
All other causes.	Total deaths from all causes.	RATIO OF DEATHS PER 1,000 OF POPULATION.										No.
		Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.		
										For the year.	Mean ratio of previous five years.	
16	17	18	19	20	21	22	23	24	25	26	27	28
172	797	2.41	0.91	0.11	21.56	1.34	6.47	0.64	9.20	42.34	42.87	107
76	427	1.38	0.43	0.09	19.97	1.72	6.46	0.17	6.54	33.76	33.75	108
26	218	0.99	0.99	...	22.14	1.27	1.69	0.14	3.53	39.75	40.51	109
30	153	0.37	4.67	...	11.40	0.56	5.79	0.19	5.61	28.59	35.77	110
30	136	...	0.11	...	4.69	1.26	5.84	0.23	3.43	15.56	30.42	111
73	222	...	3.26	...	12.54	0.26	2.74	0.65	9.53	23.99	42.88	112
194	554	...	0.99	0.07	15.66	3.09	3.09	0.79	12.76	36.44	43.24	113
44	176	...	2.06	0.17	15.81	1.72	1.89	1.03	7.56	30.25	48.60	114
100	300	...	0.49	...	11.02	2.66	5.32	0.20	9.84	29.53	43.93	115
75	175	...	0.79	...	6.10	1.24	2.49	0.68	8.48	19.78	15.37	116
102	648	0.49	1.14	13.34	26.90	1.14	6.83	0.57	8.29	52.69	37.03	117
54	319	...	0.94	...	19.74	1.51	2.74	0.09	5.10	30.12	52.65	118
469	2,306	2.92	1.31	6.37	18.78	2.62	6.88	0.51	10.06	49.44	43.27	119
7	33	0.73	...	...	10.29	1.47	5.88	0.73	5.14	24.25	32.48	120
85	210	2.10	...	0.11	14.48	...	2.32	0.36	3.87	23.22	34.49	121
78	371	1.11	1.91	8.24	13.07	1.01	4.12	...	7.84	37.29	28.54	122
15	145	...	...	...	17.83	1.61	1.12	0.32	2.41	23.30	33.19	123
7	228	...	0.56	...	29.69	0.87	0.74	0.87	10.58	42.33	51.11	124
6	145	0.29	.	...	18.20	1.31	0.58	0.29	0.87	21.55	37.97	125
26	265	1.65	...	...	27.80	4.21	1.65	0.60	3.91	39.83	37.93	126
52	205	0.49	2.34	0.12	12.18	0.37	3.32	...	6.40	25.22	26.94	127
75	269	...	4.01	...	17.60	0.97	0.97	...	9.10	32.66	49.17	128
22	229	...	4.16	...	21.87	...	0.13	...	2.77	28.94	45.15	129
71	477	0.31	2.66	1.53	10.37	1.53	3.93	0.41	3.63	24.36	19.58	130
54	198	0.55	1.48	9.22	9.41	0.74	4.25	0.92	9.97	36.55	7.97	131
220	803	0.15	0.23	0.27	15.89	4.13	1.89	0.12	8.49	31.18	43.54	132
241	627	2.34	8.31	...	11.93	1.63	2.06	1.14	17.11	44.52	46.70	133
699	3,059	...	0.41	3.10	14.86	2.43	6.54	0.19	8.15	35.67	46.39	134
78	287	...	2.68	0.47	22.10	2.53	4.58	0.63	12.31	45.31	47.65	135
9	116	...	0.49	0.24	18.21	0.97	5.58	0.49	2.18	28.16	38.46	136
47	124	...	...	...	16.73	2.39	3.53	0.30	14.04	37.03	57.45	137
46	185	...	...	...	16.91	5.13	4.23	0.60	13.89	40.76	48.07	138
49	270	...	0.37	...	24.47	1.21	0.86	0.12	6.00	33.04	39.06	139
45	162	...	0.57	...	24.55	4.57	3.43	0.28	12.85	46.25	57.72	140
123	394	0.42	0.80	0.06	12.99	1.48	0.65	0.18	7.30	23.38	33.24	141
54	172	...	...	...	17.19	0.46	0.46	...	8.29	26.39	40.08	142
68	195	...	0.15	...	15.98	0.58	1.74	...	9.87	28.29	50.11	143
22	155	...	...	...	34.02	...	1.89	...	5.94	41.85	53.56	144
15	77	...	...	...	22.02	0.77	1.16	...	5.79	29.74	51.53	145
14,550	60,327	0.63	1.33	0.81	15.50	1.65	5.32	0.52	8.19	33.95	43.79	
94,683	548,070	0.44	0.79	0.57	18.88	0.45	1.96	0.36	4.90	23.34	43.57	

APPENDIX TO ANNUAL FORM No. VI-B.

BIRTHS AND DEATHS REGISTERED IN THE CANTONMENTS OF THE PUNJAB
DURING THE YEAR 1919.

No.	CANTONMENTS.	Population according to the census of 1911.	INJURIES.											All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population	Total births registered during the year.	Ratio of births per 1,000 of population.	No.
			Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhoea.	Respiratory diseases.	Suicide.		Wounds and accidents.	Snake-bite and killed by wild beasts.	Total.						
1	2	3	4	5	6	7	8	9	Males.	Females.	12	13	14	15	16	17	18	19	20
1	Ambala ...	54,223	6	1	...	496	34	74	...	1	4	...	5	404	1,020	19	1,347	25	1
2	Kasauli ...	3,194	...	...	...	59	2	...	...	...	1	6	7	39	107	34	90	28	2
3	Dagshai ...	2,082	...	...	...	8	1	...	...	...	1	...	1	29	39	19	60	30	3
4	Sabathu ...	1,847	...	...	...	22	...	...	...	...	...	...	...	6	28	15	24	13	4
5	Jatogh ...	471	...	...	...	2	...	...	...	...	...	...	...	10	12	25	8	17	5
6	Dharmasala ...	3,700	...	1	...	16	...	...	...	...	...	...	...	7	24	6	58	16	6
7	Jullundur ...	13,964	...	1	...	87	5	36	5	1	2	...	8	64	201	14	180	13	7
8	Ferozepore ...	26,158	...	1	...	312	16	47	1	...	7	2	10	222	608	23	849	32	8
9	Lahore ...	18,416	29	4	...	227	7	115	...	...	...	...	...	52	484	24	291	16	9
10	Amritsar ...	1,417	1	...	...	25	3	20	...	1	...	...	1	24	74	52	35	25	10
11	Dalhousie ...	644	...	...	...	2	1	...	...	...	...	...	...	11	14	22	23	36	11
12	Bakloh ...	3,566	...	...	...	4	...	1	...	...	...	...	...	4	9	2	15	4	12
13	Sialkot ...	16,274	7	...	...	55	10	34	...	...	...	...	...	106	212	18	270	17	13
14	Jhelum ...	7,380	...	...	6	11	4	1	...	...	...	...	...	7	29	4	27	4	14
15	Rawalpindi ...	39,841	12	3	15	194	12	66	...	...	8	1	9	55	366	9	427	11	15
16	Campbellpur ...	3,357	...	...	...	21	...	...	...	...	...	...	...	14	35	10	49	15	16
17	Murree ...	344	...	...	...	2	...	...	...	...	...	...	...	14	16	47	10	29	17
18	Attock ...	630	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18
19	Multan ...	13,496	...	2	...	67	3	6	...	...	...	...	...	34	112	8	95	7	19
	Total	210,954	55	19	21	1,610	98	400	6	8	23	9	41	1,102	3,340	16	3,858	18	

ANNUAL FORM No. VII.

DEATHS REGISTERED FROM CHOLERA IN THE DISTRICTS OF THE PUNJAB
DURING EACH MONTH OF THE YEAR 1919.

1	2	3		4		5												6			7			8	9
		CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.												TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	No.
No.	DISTRICTS.	Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
AMBALA DIVISION.																									
1	Hissar	27	4	963	3	...	...	...	...	...	...	10	13	6	...	...	...	17	12	29	0.04	0.03	0.04	0.21	1
2	Rohtak	19	3	731	5	...	...	...	...	...	82	41	...	2	...	...	...	44	31	75	0.11	0.09	0.10	0.18	2
3	Gurgaon	24	14	1,367	39	...	...	...	...	8	94	40	174	151	38	...	...	285	220	505	0.73	0.65	0.69	0.17	3
4	Karnal	25	13	1,983	37	...	...	...	1	8	39	102	111	104	7	...	...	211	161	372	0.48	0.44	0.47	0.24	4
5	Ambala	19	6	1,715	7	...	...	...	4	...	20	28	...	7	...	...	...	34	25	59	0.10	0.09	0.09	0.16	...
6	Simla	3	...	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.06	...
JULLUNDUR DIVISION.																									
7	Kangra	15	2	713	4	...	...	...	...	12	1	...	...	1	...	...	...	12	2	14	0.03	0.01	0.02	0.30	7
8	Hoshiarpur	23	5	2,108	9	...	...	...	...	...	3	...	4	9	...	...	...	8	6	16	0.02	0.02	0.02	0.14	8
9	Jullundur	17	12	1,215	18	...	...	...	6	1	26	15	34	45	...	...	...	75	52	127	0.17	0.15	0.16	0.23	9
10	Ludhiana	14	3	858	3	...	...	...	3	2	6	...	...	...	...	...	...	6	5	11	0.02	0.02	0.02	0.41	10
11	Ferozepore	25	12	1,499	20	...	...	...	3	94	32	41	93	5	...	...	...	161	107	268	0.31	0.26	0.29	0.77	11
LAHORE DIVISION.																									
12	Lahore	31	20	1,191	41	...	...	...	1	3	1	42	138	275	21	...	...	259	222	481	0.45	0.51	0.47	0.73	12
13	Amritsar	15	13	1,039	56	...	...	...	4	...	8	9	169	252	17	...	...	280	179	459	0.57	0.47	0.52	0.52	12
14	Gurdaspur	22	7	2,238	3	...	...	...	1	2	6	...	6	36	4	...	...	32	23	55	0.07	0.06	0.07	0.13	14
15	Sialkot	30	7	2,349	3	...	...	...	...	...	...	...	20	49	...	...	...	47	22	69	0.09	0.05	0.07	0.15	15
16	Gujranwala	35	11	1,733	71	...	...	...	3	68	283	370	71	60	3	...	...	506	352	858	0.39	0.37	0.38	0.19	16
RAWALPINDI DIVISION.																									
17	Gujrat	17	12	1,326	21	...	...	...	2	5	19	55	56	125	4	...	...	120	137	256	0.32	0.40	0.33	0.38	17
18	Shahpur	23	8	1,054	32	...	...	...	...	5	76	101	41	6	...	...	...	138	91	229	0.37	0.29	0.33	0.07	18
19	Jhelum	14	8	898	13	...	...	...	...	...	7	93	4	...	...	...	...	52	52	104	0.20	0.21	0.21	0.03	19
20	Rawalpindi	14	13	1,177	85	...	...	...	...	...	102	241	86	169	3	...	...	330	271	601	1.28	1.13	1.18	0.08	20
21	Attock	13	13	628	38	...	...	...	...	...	303	1,604	100	15	...	...	...	1,162	860	2,022	4.30	3.51	3.92	0.004	21
22	Mianwali	15	5	396	10	...	...	...	...	...	115	195	14	...	...	...	...	173	151	324	0.96	0.94	0.95	0.02	22
MULTAN DIVISION.																									
23	Montgomery	21	1	2,438	...	...	...	...	...	...	...	1	3	...	...	...	...	3	1	4	0.01	0.004	0.01	0.24	23
24	Lyallpur	21	17	1,277	139	...	...	...	...	4	217	712	282	162	3	...	...	766	614	1,380	1.52	1.59	1.55	0.22	24
25	Jhang	13	7	955	17	...	...	...	...	1	6	60	45	11	1	...	...	64	60	124	0.23	0.25	0.24	0.02	25
26	Multan	20	2	1,353	3	...	...	...	3	36	...	2	...	...	...	...	...	28	13	41	0.06	0.04	0.05	0.09	26
27	Muzaffargarh	23	1	860	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	...	0.003	0.002	0.01	27
28	Dera Ghazi Khan	23	4	707	6	...	...	...	3	24	40	...	...	...	...	...	...	34	33	67	0.12	0.15	0.13	0.01	28
Total for the Province		501	223	34,193	744	...	...	...	35	273	1,436	3,762	1,464	1,400	101	...	...	4,856	3,705	8,561	0.46	0.42	0.44	0.24	...

ANNUAL FORM

DEATHS REGISTERED FROM SMALL-POX IN THE DISTRICTS

1	2			3		4		5						
No.	DISTRICTS.			CIRCLES OF REGIS- TRATION.		VILLAGES.		MONTHS.						
				Number in each dis- trict.	Number from which deaths from small pox were reported.	Number in each dis- trict.	Number from which deaths from small- pox were reported.	January.	February.	March.	April.	May.	June.	July.
1	2			3	4	5	6	7	8	9	10	11	12	13
AMBALA DIVISION.														
1	Hissar ...	...	...	27	22	963	261	49	58	186	230	233	209	116
2	Rohtak ...	...	...	19	14	731	23	3	9	9	20	4	4	6
3	Gurgaon ...	...	...	24	12	1,367	24	6	12	21	31	14	11	...
4	Karnal ...	...	...	25	25	1,382	139	14	26	32	46	81	109	26
5	Ambala ...	...	...	19	18	1,715	110	4	8	15	34	47	62	35
6	Simla ...	...	...	3	3	23	4	3	...	2	8	1	1	...
JULLUNDUR DIVISION.														
7	Kangra ...	...	...	15	14	713	45	17	20	25	25	11	7	6
8	Hoshiarpur ...	...	...	28	23	2,108	573	138	142	156	203	290	463	236
9	Jullundur ...	...	...	17	17	1,215	131	94	39	25	32	52	56	38
10	Ludhiana ...	...	...	14	13	853	210	118	91	75	54	100	130	37
11	Ferozepore ...	...	...	25	25	1,499	114	91	149	183	195	334	290	178
LAHORE DIVISION.														
12	Lahore ...	...	...	81	80	1,191	282	204	152	105	97	152	131	182
13	Amritsar ...	...	...	15	15	1,039	109	56	58	43	46	49	90	79
14	Gurdaspur ...	...	...	22	21	2,238	216	51	39	44	60	82	117	58
15	Sialkot ...	...	...	80	28	2,349	248	38	70	54	40	120	176	111
16	Gujranwala ...	...	...	35	23	1,733	90	95	96	66	39	46	8	44
RAWALPINDI DIVISION.														
17	Gujrat ...	...	...	17	15	1,326	37	24	36	14	20	32	83	61
18	Shahpur ...	...	...	23	22	1,054	78	18	16	12	13	44	63	72
19	Jhelum ...	...	...	14	14	898	218	16	21	37	45	73	153	109
20	Rawalpindi ...	...	...	14	11	1,177	66	10	20	16	11	10	44	29
21	Attock ...	...	...	13	12	628	50	13	11	6	3	19	41	29
22	Mianwali ...	...	...	15	7	396	10	...	2	...	1	1	...	3
MULTAN DIVISION.														
23	Montgomery ...	...	...	21	21	2,438	251	10	38	60	69	126	162	169
24	Lyallpur ...	...	...	21	21	1,277	86	21	31	47	101	138	245	176
25	Jhang ...	...	...	13	10	955	30	3	3	...	5	21	52	31
26	Multan ...	...	...	20	16	1,353	46	11	8	11	7	24	6	31
27	Muzaffargarh ...	...	...	23	9	860	10	1	...	1	4	3	...	1
28	Dera Ghazi Khan...	...	...	23	6	707	7	...	...	1	3	1	4	...
Total for the Province ...				561	467	34,193	3,442	1,108	1,155	1,196	1,442	2,108	2,717	1,863

No. VIII.

OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1919.

					6			7		8			9	10
					TOTAL.			NUMBER OF DEATHS AMONG CHILDREN.		RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	No.
August.	September.	October.	November.	December.	Males.	Females.	Total.	Under one year.	Over one year and under ten years.	Males.	Females.	Total.		
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
26	6	...	...	...	591	502	1,068	301	605	1.28	1.37	1.32	0.14	1
4	4	...	...	...	36	27	63	20	34	0.09	0.08	0.09	0.09	2
1	1	...	1	...	48	50	98	21	63	0.12	0.15	0.13	0.10	3
7	5	1	...	10	187	170	357	98	189	0.43	0.47	0.45	0.13	4
7	13	15	19	23	146	136	282	62	113	0.41	0.49	0.45	0.10	5
...	...	...	...	...	9	6	15	2	1	0.41	0.46	0.43	0.06	6
...	...	1	6	4	86	36	122	10	11	0.22	0.10	0.16	0.01	7
109	49	40	66	102	1,026	963	1,994	502	758	2.05	2.32	2.17	0.06	8
9	13	8	13	20	198	301	399	89	189	0.45	0.58	0.51	0.08	9
23	7	2	4	...	316	325	641	147	300	1.08	1.45	1.24	0.31	10
85	36	30	53	83	906	801	1,707	380	941	1.74	1.94	1.83	0.24	11
83	40	12	40	49	662	535	1,247	326	765	1.14	1.34	1.23	0.49	12
20	23	20	26	63	334	239	573	150	293	0.67	0.62	0.65	0.30	13
29	29	9	6	28	288	264	552	157	230	0.63	0.72	0.66	0.07	14
46	18	7	27	47	394	330	754	173	380	0.74	0.83	0.78	0.04	15
...	...	...	5	9	214	194	408	190	161	0.41	0.43	0.44	0.03	16
34	33	12	20	51	226	194	420	139	199	0.56	0.56	0.56	0.04	17
30	11	6	30	89	219	185	404	111	203	0.58	0.60	0.59	0.04	18
31	23	41	106	206	419	442	861	164	524	1.60	1.88	1.71	0.02	19
17	15	12	14	21	114	105	219	41	108	0.43	0.44	0.43	0.01	20
25	12	9	39	66	158	115	273	65	163	0.58	0.47	0.53	0.02	21
2	...	...	2	4	10	5	15	3	6	0.06	0.03	0.04	0.07	22
139	67	90	109	291	708	622	1,330	821	779	2.56	2.73	2.64	0.17	23
77	33	29	92	130	629	541	1,170	269	659	1.25	1.40	1.32	0.16	24
12	13	12	40	41	120	113	233	75	97	0.43	0.47	0.45	0.02	25
6	1	4	5	18	67	65	132	28	67	0.15	0.18	0.16	0.13	26
...	...	...	...	7	13	4	17	2	7	0.04	0.02	0.03	0.11	27
1	...	...	...	6	9	7	16	2	11	0.03	0.03	0.03	0.05	28
823	452	360	723	1,418	8,103	7,162	15,365	3,348	7,862	0.76	0.83	0.79	0.12	

ANNUAL FORM

DEATHS REGISTERED FROM FEVERS IN THE

1	2	3	4	5							
No.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.					
		Number in each district.	Number from which deaths from fevers were reported.	Number in each district.	Number from which deaths from fevers were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar	27	27	963	963	1,703	1,285	1,171	1,262	1,353	2,191
2	Rohtak	19	19	731	731	1,132	842	868	1,110	1,274	1,900
3	Gurgaon	24	24	1,367	1,363	1,333	1,009	980	1,076	1,204	1,329
4	Karnal	25	25	1,382	1,382	1,715	899	931	1,326	1,634	2,215
5	Ambala	19	19	1,715	1,715	1,242	725	726	614	831	867
6	Simla	3	3	23	23	57	26	18	22	40	23
JULLUNDUR DIVISION.											
7	Kangra	15	15	713	663	2,364	1,514	869	824	1,032	1,188
8	Hoshiarpur	23	23	2,108	2,080	1,289	927	974	1,054	1,269	1,216
9	Jullundur	17	17	1,215	957	925	822	831	862	978	1,063
10	Ludhiana	14	14	858	803	699	457	480	425	502	555
11	Ferozepore	25	25	1,499	1,427	1,907	1,199	1,160	1,123	955	1,169
LAHORE DIVISION.											
12	Lahore	31	31	1,191	1,134	1,454	1,128	1,076	1,029	1,356	1,676
13	Amritsar	15	15	1,039	1,031	1,505	1,099	980	946	1,229	1,318
14	Gurdaspur	22	22	2,238	1,679	1,093	639	636	653	735	814
15	Sialkot	30	30	2,349	2,210	1,284	973	853	709	1,075	1,141
16	Gujranwala	33	33	1,733	1,733	3,334	1,961	1,829	989	1,206	1,566
RAWALPINDI DIVISION.											
17	Gujrat	17	17	1,326	1,233	1,700	1,243	991	767	812	996
18	Shahpur	23	23	1,054	1,054	1,349	907	833	734	660	965
19	Jhelum	14	14	893	893	779	663	650	533	573	634
20	Rawalpindi	14	14	1,177	931	757	589	615	497	515	566
21	Attock	13	13	628	628	1,264	931	759	728	661	672
22	Mianwali	15	15	396	396	1,009	686	638	564	553	583
MULTAN DIVISION.											
23	Montgomery	21	21	2,438	1,331	1,941	1,381	993	681	820	756
24	Lyallpur	21	21	1,277	1,277	1,232	915	1,021	943	1,431	1,503
25	Jhang	13	13	955	803	1,372	844	783	583	543	567
26	Multan	20	20	1,353	1,353	2,697	1,825	1,565	1,133	1,108	1,065
27	Muzaffargarh	23	23	860	703	1,746	1,311	1,115	921	1,025	872
28	Dera Ghazi Khan	23	23	707	650	1,150	734	791	852	1,124	1,008
Total for the Province											
		561	561	34,193	31,153	40,038	27,584	25,142	22,965	26,498	30,498

No. IX.

DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1919.

						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for pre- vious five years.	No.
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
1,196	736	1,081	1,535	1,198	1,031	8,310	7,435	15,745	18.95	20.29	19.56	32.77	1
898	660	1,092	1,813	1,790	1,354	7,746	6,987	14,733	20.10	21.21	20.61	34.68	2
759	655	1,461	3,315	3,057	2,228	9,504	8,905	18,409	24.42	23.19	25.25	40.95	3
1,254	1,037	1,712	2,660	2,540	2,027	10,503	9,442	19,950	24.01	26.08	24.94	31.83	4
725	675	1,304	2,033	2,020	1,809	7,235	6,386	13,571	20.24	23.03	21.45	28.61	5
47	66	54	57	48	80	323	215	538	14.67	16.60	15.33	13.04	6
1,072	1,076	1,677	1,610	1,395	1,747	8,272	8,096	16,368	20.76	21.98	21.35	23.08	7
936	1,080	1,963	2,408	2,042	2,092	8,791	8,459	17,250	17.53	20.28	18.78	25.12	8
815	934	1,409	1,629	1,602	1,528	6,850	6,548	13,398	15.55	18.85	17.00	23.30	9
417	473	729	898	955	802	3,747	3,645	7,392	12.77	16.30	14.29	24.19	10
963	697	1,154	1,329	1,763	1,467	7,993	6,928	14,921	15.35	16.79	15.98	27.50	11
1,336	1,047	1,565	1,413	1,433	1,517	8,656	7,424	16,080	14.89	17.02	15.80	25.68	12
1,188	1,190	1,576	1,545	1,771	1,692	8,592	7,447	16,039	17.34	19.40	18.24	29.49	13
671	686	1,335	1,883	1,460	1,264	6,352	5,517	11,869	13.63	15.06	14.26	25.74	14
824	866	1,809	2,282	1,967	1,826	8,275	7,339	15,614	15.59	16.97	16.21	25.77	15
1,700	1,072	1,467	1,891	2,108	2,449	11,798	9,774	21,572	22.77	24.12	23.36	36.70	16
1,010	770	1,465	2,024	1,760	1,652	7,836	7,354	15,190	19.56	21.31	20.37	25.89	17
937	553	625	779	794	839	5,339	4,641	9,980	14.17	14.95	14.52	26.43	18
622	463	795	955	960	969	4,644	4,002	8,646	17.71	16.54	17.15	24.19	19
630	521	750	781	946	989	4,165	3,991	8,156	15.56	16.63	16.07	25.08	20
766	600	712	701	871	710	4,929	4,496	9,425	18.23	18.36	18.29	23.35	21
550	397	571	506	540	646	3,773	3,465	7,243	21.00	21.46	21.22	35.34	22
581	576	571	878	930	1,167	6,056	5,219	11,275	21.93	22.89	22.37	33.60	23
1,437	1,005	1,179	1,077	1,331	1,370	7,561	6,943	14,449	14.89	18.04	16.26	24.56	24
509	449	538	573	707	776	4,213	4,036	8,249	15.20	16.93	16.00	27.65	25
736	753	1,017	1,301	1,517	1,667	8,633	7,800	16,433	19.84	21.31	20.51	34.19	26
723	556	707	978	1,371	1,732	7,068	5,994	13,062	22.92	22.93	22.94	37.00	27
562	449	519	582	811	901	5,340	4,143	9,483	19.60	18.21	18.97	33.94	28
23,919	20,050	30,837	39,441	39,742	39,331	192,459	172,586	365,045	18.14	19.77	18.88	29.00	

DEATHS REGISTERED FROM DYSENTERY AND DIARRHŒA IN THE

1	2	3		4		5					
No.	DISTRICTS.	CIRCLES OF RE- GISTRATION.		VILLAGES.		MONTHS.					
		Number in each dis- trict.	Number from which deaths from dysen- tery and diarrhoea were reported.	Number in each dis- trict.	Number from which deaths from dysen- tery and diarrhoea were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar	27	17	963	139	17	4	6	15	42	41
2	Rohtak	19	19	731	148	16	13	8	13	31	36
3	Gurgaon	24	24	1,367	272	31	11	11	29	26	29
4	Karnal	25	24	1,382	108	14	3	7	20	15	20
5	Ambala	19	16	1,715	159	16	9	11	18	31	37
6	Simla	3	3	23	10	2	3	12	9	16	18
JULLUNDUR DIVISION.											
7	Kangra	15	15	713	360	22	15	28	30	72	83
8	Hoshiarpur	23	13	2,108	25	...	3	1	6	10	2
9	Jullundur	17	17	1,215	91	12	9	8	23	30	23
10	Ludhiana	14	14	858	57	13	12	8	19	19	16
11	Ferozepore	25	25	1,499	46	12	10	18	17	19	19
LAHORE DIVISION.											
12	Lahore	31	23	1,191	53	37	24	33	34	47	42
13	Amritsar	15	15	1,039	139	16	19	16	19	33	28
14	Gurdaspur	22	22	2,238	423	19	6	9	21	51	30
15	Sialkot	30	28	2,349	189	29	14	17	28	54	56
16	Gujranwala	35	29	1,733	60	4	5	3	6	21	13
RAWALPINDI DIVISION.											
17	Gujrat	17	17	1,326	81	11	6	7	19	24	19
18	Shahpur	23	22	1,054	63	4	9	12	15	18	33
19	Jhelum	14	14	898	86	13	3	7	15	21	9
20	Bawalpindi	14	14	1,177	267	140	118	129	119	143	78
21	Attock	13	10	628	12	1	1	2	1	3	5
22	Mianwali	15	15	396	62	13	6	12	13	19	17
MULTAN DIVISION.											
23	Montgomery	21	16	2,438	22	...	3	...	3	1	7
24	Lyallpur	21	20	1,277	92	18	9	19	35	33	13
25	Jhang	13	13	955	109	17	9	9	16	35	18
26	Multan	20	18	1,353	41	12	10	11	15	17	10
27	Muzaffargarh	23	15	860	14	3	1	9	1	5	2
28	Dera Ghazi Khan	23	14	707	19	...	...	...	6	11	3
Total for the Province ...		561	497	34,193	3,147	492	335	418	565	847	707

No. X.

DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1919.

						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	No.
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
25	36	92	27	1	16	163	176	339	0.37	0.48	0.42	0.68	1
13	23	44	49	34	37	173	144	317	0.45	0.44	0.44	0.53	2
18	30	66	89	94	76	262	248	510	0.67	0.73	0.70	0.95	3
11	27	28	30	32	26	126	107	233	0.29	0.30	0.29	0.47	4
26	27	40	52	48	58	224	144	368	0.63	0.52	0.58	0.88	5
15	9	3	2	3	2	53	41	94	2.41	3.16	2.69	1.40	6
29	42	56	32	31	23	223	240	463	0.56	0.65	0.60	1.31	7
1	6	5	2	3	2	24	17	41	0.05	0.04	0.04	0.04	8
21	29	43	26	36	16	163	116	279	0.37	0.33	0.35	0.51	9
14	19	31	24	23	23	127	94	221	0.43	0.42	0.43	0.47	10
17	22	23	33	23	26	132	167	299	0.25	0.26	0.26	0.54	11
23	36	70	39	57	42	298	191	489	0.51	0.44	0.48	0.63	12
22	31	56	30	36	24	197	133	330	0.40	0.35	0.38	1.11	13
19	48	90	92	66	49	299	201	500	0.64	0.55	0.60	1.43	14
36	48	80	79	52	51	319	225	544	0.60	0.52	0.56	1.24	15
13	18	10	13	15	13	83	54	137	0.16	0.13	0.15	0.30	16
12	21	51	56	38	9	164	163	267	0.41	0.30	0.36	0.50	17
20	21	33	27	22	22	144	92	236	0.38	0.30	0.34	0.41	18
31	13	11	21	15	15	101	73	174	0.39	0.30	0.35	0.41	19
19	77	149	193	187	215	828	739	1,567	3.09	3.08	3.09	3.78	20
4	13	13	...	4	2	27	22	49	0.10	0.09	0.10	0.07	21
25	12	17	12	5	9	87	73	160	0.48	0.45	0.47	0.61	22
4	4	8	5	...	6	22	19	41	0.05	0.08	0.08	0.11	23
61	46	73	22	15	8	194	158	352	0.39	0.41	0.40	0.38	24
16	34	64	32	21	9	156	124	280	0.56	0.52	0.54	0.65	25
33	42	38	39	28	24	164	115	279	0.38	0.31	0.35	0.38	26
4	10	7	12	10	6	41	29	70	0.13	0.11	0.12	0.15	27
8	4	8	11	6	3	36	24	60	0.13	0.11	0.12	0.49	28
543	748	1,212	1,043	917	812	4,830	3,809	8,639	0.46	0.44	0.45	0.70	

DEATHS REGISTERED FROM RESPIRATORY DISEASES IN THE

1	2	3		4		5					
No.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.					
		Number in each district.	Number from which deaths from respiratory diseases were reported.	Number in each district.	Number from which deaths from respiratory diseases were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar ...	27	22	963	270	97	78	65	49	74	80
2	Rohtak ...	19	19	731	486	133	64	68	66	74	103
3	Gurgaon ...	24	24	1,367	463	76	70	62	71	91	90
4	Karnal ...	25	25	1,382	387	57	44	42	49	134	217
5	Ambala ...	19	19	1,715	1,203	156	125	160	184	326	453
6	Simla ...	3	3	23	21	4	10	4	6	12	9
JULLUNDUR DIVISION.											
7	Kanpur ...	15	15	713	640	526	287	260	220	249	259
8	Hoshiarpur ...	23	23	2,108	683	153	153	181	162	146	159
9	Jullundur ...	17	17	1,215	241	102	99	137	112	99	111
10	Ludhiana ...	14	14	858	229	95	75	79	48	102	62
11	Ferozepore ...	25	25	1,499	231	102	108	81	92	107	100
LAHORE DIVISION.											
12	Lahore ...	31	29	1,191	414	228	167	149	138	165	147
13	Amritsar ...	15	15	1,039	517	267	161	172	149	261	285
14	Gurdaspur ...	22	22	2,238	1,897	641	577	573	461	552	406
15	Sialkot ...	30	30	2,349	1,197	269	251	238	178	264	253
16	Gujranwala ...	35	35	1,733	110	34	59	48	37	76	53
RAWALPINDI DIVISION.											
17	Gujrat ...	17	17	1,826	409	187	134	168	117	128	84
18	Sialpur ...	23	23	1,054	309	72	61	55	59	51	63
19	Jhelum ...	14	14	898	387	93	76	74	87	76	88
20	Rawalpindi ...	14	14	1,177	489	119	127	75	74	79	157
21	Attock ...	13	13	628	180	22	33	35	35	62	44
22	Mianwali ...	15	15	396	131	7	5	9	13	33	30
MULTAN DIVISION.											
23	Montgomery ...	21	15	2,438	43	14	9	5	6	12	12
24	Lyailpur ...	21	21	1,277	244	60	75	60	38	66	64
25	Jhang ...	13	13	955	147	10	14	14	32	37	25
26	Multan ...	20	20	1,353	158	63	62	59	59	76	73
27	Muzaffargarh ...	23	23	830	80	14	11	20	11	14	8
28	Dera Ghazi Khan ...	23	20	707	41	2	2	2	15	9	111
Total for the Province		561	545	34,193	11,537	3,603	2,947	2,895	2,568	3,375	3,456

No. XI.

DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1919.

						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for pre- vious five years.	No.
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
42	35	57	44	50	66	418	319	737	0.95	0.87	0.92	1.49	1
67	59	90	96	115	118	541	512	1,053	1.40	1.55	1.47	1.70	2
62	78	95	94	105	132	513	513	1,026	1.32	1.51	1.41	2.09	3
68	51	81	122	108	127	590	510	1,100	1.35	1.41	1.38	1.86	4
179	156	197	241	328	381	1,594	1,302	2,896	4.46	4.73	4.58	5.06	5
11	6	4	2	1	41	60	50	110	2.73	3.86	3.15	5.67	6
142	143	274	279	365	528	1,879	1,653	3,532	4.72	4.49	4.61	3.42	7
144	146	170	235	276	320	1,331	914	2,245	2.65	2.19	2.44	2.66	8
104	125	145	140	161	186	879	642	1,521	2.00	1.85	1.93	3.49	9
64	54	81	78	96	126	545	415	960	1.86	1.86	1.86	2.62	10
75	89	99	100	131	149	715	518	1,233	1.37	1.26	1.32	1.90	11
111	139	154	128	147	251	1,074	850	1,924	1.85	1.95	1.89	2.14	12
203	249	237	255	270	298	1,548	1,309	2,857	3.12	3.41	3.25	4.64	13
123	171	214	657	613	822	2,915	2,395	5,310	6.25	6.54	6.38	11.51	14
198	218	310	296	259	349	1,682	1,401	3,083	3.17	3.24	3.20	5.16	15
38	58	35	18	48	80	350	239	589	0.68	0.59	0.64	0.98	16
95	104	138	98	141	154	879	669	1,548	2.19	1.94	2.08	2.83	17
33	39	30	49	73	104	435	259	694	1.15	0.83	1.01	1.28	18
82	66	80	67	78	144	582	429	1,011	2.22	1.77	2.01	2.02	19
182	133	47	82	124	161	760	600	1,360	2.84	2.50	2.68	2.66	20
42	62	56	60	53	72	312	264	576	1.15	1.08	1.12	1.54	21
27	22	34	20	43	23	159	107	266	0.88	0.66	0.78	0.60	22
3	2	5	6	9	18	61	40	101	0.22	0.18	0.20	0.34	23
47	46	71	52	76	69	430	294	724	0.85	0.76	0.81	0.92	24
54	16	37	33	26	4	168	114	282	0.61	0.48	0.55	1.13	25
62	59	55	89	60	54	399	372	771	0.91	1.02	0.96	0.33	26
10	20	12	12	20	50	127	75	202	0.41	0.29	0.35	0.30	27
10	8	9	10	11	13	65	37	102	0.24	0.16	0.20	0.71	28
2,258	2,354	2,867	3,863	3,787	4,840	21,011	16,802	37,813	1.04	1.92	1.96	2.60	

DEATHS REGISTERED FROM PLAGUE IN THE

1	2	3		4		5					
No.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		MONTHS.					
		Number in each district.	Number from which deaths from plague were reported.	Number in each district.	Number from which deaths from plague were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
AMBALA DIVISION.											
1	Hissar	27	7	963	7	17	21	99	268	67	...
2	Rohtak	19	13	731	45	57	199	847	1,212	783	68
3	Gurgaon	24	6	1,367	6	...	...	5	43	20	...
4	Karnal	25	3	1,382	1	...	...	...	2	11	2
5	Ambala	19	2	1,715	2	...	13	29	17	2	...
6	Simla	3	...	23	...	...	...	...	...	...	...
JULLUNDUR DIVISION.											
7	Kangra	15	...	713	...	...	...	...	...	...	...
8	Hoshiarpur	23	5	2,108	14	...	5	4	19	43	4
9	Jullundur	17	5	1,215	11	...	...	34	73	42	...
10	Ludhiana	14	2	858	2	...	...	38	25	...	...
11	Ferozepore	25	13	1,489	23	1	28	254	533	320	26
LAHORE DIVISION.											
12	Lahore	31	18	1,191	92	1	55	264	579	630	79
13	Amritsar	15	2	1,039	1	...	...	...	6	8	...
14	Gurdaspor	22	3	2,238	11	5	9	26	39	15	...
15	Sialkot	30	7	2,349	15	...	1	6	101	118	19
16	Gujranwala	35	12	1,733	46	...	2	9	116	256	51
RAWALPINDI DIVISION.											
17	Gujrat	17	6	1,326	15	3	...	4	10	6	4
18	Shahpur	23	6	1,054	4	...	5	9	23	11	9
19	Jhelum	14	6	898	16	1	13	36	133	185	36
20	Rawalpindi	14	6	1,177	10	3	2	19	18	48	15
21	Attock	13	3	628	18	...	16	94	165	347	212
22	Mianwali	15	1	393	2	3	...	1	...	...	...
MULTAN DIVISION.											
23	Montgomery	21	10	2,433	22	9	62	56	270	268	167
24	Lyallpur	21	8	1,277	28	29	12	32	118	171	18
25	Jhang	13	3	955	13	...	1	1	3	23	3
26	Multan	20	8	1,353	12	...	...	32	49	55	2
27	Muzaffargarh	23	1	860	...	...	...	...	...	...	...
28	Dera Ghazi Khan	23	1	707	...	...	...	...	...	...	...
Total for the Province ...		561	157	34,193	421	129	444	1,899	3,822	3,429	715

No. XII.

DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1919.

						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 for previous five years.	No.
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.		
13	14	15	16	17	18	19	20	21	22	23	24	25	26
...	251	221	472	0.57	0.60	0.59	1.92	1
...	...	5	24	27	6	1,550	1,673	3,228	4.02	5.09	4.52	1.59	2
...	44	24	68	0.11	0.07	0.09	1.96	3
...	9	6	15	0.02	0.02	0.02	2.05	4
...	29	32	61	0.08	0.12	0.09	4.13	5
...	6
...	0.03	7
...	44	31	75	0.09	0.07	0.08	4.13	8
...	...	1	..	...	...	90	60	150	0.20	0.17	0.19	7.65	9
...	27	36	63	0.09	0.16	0.12	10.01	10
...	574	588	1,162	1.10	1.43	1.24	1.83	11
...	3	...	...	793	818	1,611	1.36	1.88	1.58	7.02	12
...	1	...	...	8	7	15	0.02	0.02	0.02	5.61	13
...	50	44	94	0.11	0.12	0.11	6.61	14
1	...	4	...	...	...	120	100	250	0.28	0.40	0.26	5.66	15
...	2	3	20	244	215	459	0.47	0.53	0.50	7.89	16
...	1	1	...	20	9	29	0.05	0.03	0.04	9.79	17
...	...	1	1	...	1	23	37	60	0.03	0.12	0.09	3.82	18
...	1	9	6	194	226	420	0.74	0.98	0.83	8.65	19
1	8	40	93	61	12	180	140	320	0.67	0.58	0.63	8.51	20
...	2	2	...	338	500	838	1.25	2.04	1.83	3.62	21
...	3	1	4	0.02	0.01	0.01	0.03	22
56	5	1	...	...	...	402	492	894	1.46	2.18	1.77	1.43	23
...	1	...	...	...	1	173	209	382	0.34	0.54	0.48	1.54	24
...	2	29	12	32	0.07	0.05	0.06	1.33	25
...	...	16	71	68	71	203	161	364	0.47	0.44	0.45	0.65	26
...	1	...	...	...	1	1	...	0.003	0.002	0.04	27
...	1	...	1	...	1	0.003	...	0.002	0.001	28
58	14	68	200	172	118	5,390	5,678	11,068	0.51	0.65	0.57	4.07	

STATEMENT

MONTHLY STATEMENT OF PLAGUE OCCURRENCES IN BRITISH

Serial No.	Districts and Native states.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Hissar ...	18	17	30	21	115	99	406	268	104	67	...	...
2	Rohtak ...	91	57	241	199	1,071	847	1,542	1,212	728	783	14	68
3	Gurgaon ...	...	...	...	...	11	5	47	43	20	20	...	...
4	Karnal ...	...	...	...	...	...	...	2	2	21	11	1	2
5	Ambala ...	...	...	20	13	41	29	31	17	2	2	...	...
6	Simla ...	...	...	...	...	...	...	...	...	...	...	...	...
7	Kangra ...	...	...	...	...	...	...	...	...	...	...	...	...
8	Hoshiarpur ...	...	...	7	5	5	4	26	19	52	43	9	4
9	Jullundur ...	...	...	...	...	77	34	110	73	36	42	...	...
10	Ludhiana ...	...	...	...	...	84	38	43	25	6	...	...	...
11	Ferozepore ...	1	1	30	28	285	254	532	533	331	320	27	26
12	Lahore ...	1	1	90	55	321	264	385	579	793	630	37	79
13	Amritsar ...	...	...	...	...	...	...	17	6	18	8	...	...
14	Gurdaspur ...	7	5	12	9	30	26	45	39	20	15	...	...
15	Sialkot ...	...	...	1	1	13	6	99	101	118	118	19	19
16	Gujranwala ...	...	...	2	2	19	9	203	116	301	256	64	51
17	Gujrat ...	3	3	...	...	5	4	10	10	8	6	4	4
18	Shahpur ...	...	...	7	5	11	9	32	23	12	11	10	9
19	Jhelum ...	1	1	18	13	51	41	164	134	202	185	36	36
20	Rawalpindi ...	8	3	3	2	28	19	30	18	67	49	23	15
21	Attock ...	...	...	26	16	142	94	226	165	357	347	256	212
22	Mianwali ...	2	3	...	...	1	1	3	...	...	...	...	...
23	Montgomery ...	50	9	85	62	110	56	511	270	408	268	395	167
24	Lyallpur ...	39	29	24	12	18	32	160	118	226	171	13	18
25	Jhang ...	5	...	5	1	7	1	8	3	36	23	3	3
26	Multan ...	...	...	4	...	46	32	72	49	82	65	2	2
27	Muzaffargarh ...	...	...	...	...	...	...	...	...	...	...	...	...
28	Dera Ghazi Khan ...	...	...	...	...	...	...	...	...	...	...	...	...
	Total British Districts	226	129	605	444	2,491	1,904	5,209	3,823	3,953	3,430	963	715
1	Patiala ...	12	11	31	31	326	316	319	319	111	111	136	136
2	Kapurthala ...	...	...	...	...	...	...	...	...	15	12	...	...
3	Maler Kotla ...	...	...	...	...	...	...	...	...	...	...	...	...
4	Jind ...	56	38	87	62	109	69	163	113	48	40	2	3
5	Kaleja ...	...	...	...	...	...	...	...	...	...	...	...	...
6	Faridkot ...	...	...	...	...	...	...	...	...	...	...	...	...
7	Nabha ...	...	...	...	...	14	14	13	13	22	22	...	...
8	Patandi ...	...	...	...	...	...	...	...	...	...	...	...	...
9	Bahawalpur ...	2	1	7	2	83	30	162	74	14	18	...	...
10	Nalagarh ...	...	...	...	...	...	...	...	...	...	...	...	...
11	Bilaspur ...	...	...	...	...	...	...	...	...	...	...	...	...
	Total Native States	70	50	125	95	532	429	657	519	210	203	138	139
	GRAND TOTAL	296	179	730	539	3,023	2,333	5,866	4,342	4,163	3,633	1,101	854

N. B.—The total deaths during the year in Jhelum and

No. 1.

DISTRICTS AND NATIVE STATES IN THE PUNJAB DURING THE YEAR 1919.

JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		TOTAL.		Serial No.	REMARKS.
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.		
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
...	673	472	1	
...	7	5	28	24	43	27	8	6	3,773	3,228	2	
...	78	68	3	
...	24	15	4	
...	94	61	5	
...	6	
...	7	
...	90	75	8	
...	1	1	...	...	...	...	...	...	224	150	9	
...	1	...	134	63	10	
...	1,216	1,162	11	
...	3	3	1	...	...	...	2,126	1,611	12	
...	1	1	...	...	...	...	86	15	13	
...	114	94	14	
1	1	...	...	6	4	...	...	...	...	...	...	257	250	15	
...	4	2	6	3	22	20	626	459	16	
...	2	1	1	1	...	...	33	29	17	
...	1	1	1	1	...	...	1	1	75	60	18	
...	1	...	2	1	9	9	7	6	491	426	19	
1	1	10	8	101	40	214	99	99	68	32	13	616	335	20	
...	5	2	2	2	...	...	1,014	838	21	
...	6	4	22	
101	56	26	5	1	1	...	...	...	...	...	...	1,687	894	23	
...	1	...	...	...	...	...	...	7	1	487	382	24	
...	1	1	65	32	25	
...	...	4	...	35	16	144	71	105	68	122	71	616	364	26	
...	1	1	...	...	...	...	1	1	27	
...	1	1	...	...	1	1	28	
103	58	40	14	153	68	405	206	267	179	201	119	14,616	11,809		
69	69	13	13	...	...	...	...	...	...	77	77	1,094	1,083	1	
...	15	12	2	
...	3	
...	465	325	4	
...	5	
...	6	
...	49	49	7	
...	8	
...	268	125	9	
...	10	
...	11	
69	69	13	13	...	...	...	...	...	...	77	77	1,891	1,594		
172	127	53	27	153	68	405	206	267	179	278	196	16,507	12,683		

Rawalpindi 6 and 15 respectively in cantonments.

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